

2020 HUMAN DEVELOPMENT PERSPECTIVES

COVID-19 AND HUMAN DEVELOPMENT:

Assessing the Crisis, Envisioning the Recovery

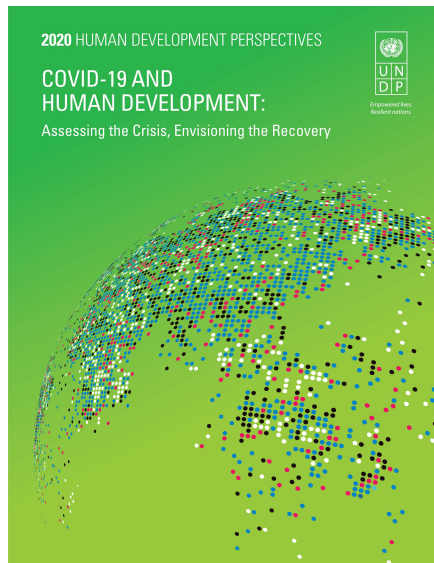


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Contents

Executive Summary	3
Introduction	4
COVID-19: A systemic crisis in human development	5
The propagation of the crisis to vulnerable groups	7
The propagation of action to face COVID-19	8
Nonpharmaceutical interventions.....	8
Economic measures.....	9
COVID-19 and history: A costly, long-lasting and regressive crisis?.....	11
Economic shock: The 2008 global financial crisis.....	11
Health shock: Ebola in West Africa	12
Natural hazard shock: Hurricane Maria.....	12
A human development perspective on how to respond to COVID-19.....	13
People's capabilities and the health response	14
Access to technologies.....	14
Safe space and balanced care work.....	18
Inequality in public health and innovation systems.....	19
People's capabilities and the economic response	20
Beyond COVID-19: Transforming our world?	22
Notes.....	25

Executive Summary

The COVID-19 pandemic is unleashing a human development crisis. On some dimensions of human development, conditions today are equivalent to levels of deprivation last seen in the mid-1980s. But the crisis is hitting hard on all of human development's constitutive elements: income (with the largest contraction in economic activity since the Great Depression), health (directly causing a death toll over 300,000 and indirectly leading potentially to an additional 6,000 child deaths every day from preventable causes over the next 6 months) and education (with effective out-of-school rates – meaning, accounting for the inability to access the internet – in primary education expected to drop to the levels of actual rates of the mid-1980s levels). This, not counting less visible indirect effects, including increased gender-based violence, yet to be fully documented.

The pandemic was superimposed on unresolved tensions between people and technology, between people and the planet, between the haves and the have-nots. These tensions were already shaping a new generation of inequalities—pertaining to enhanced capabilities, the new necessities of the 21st century, as defined in the 2019 Human Development Report. But the response to the crisis can shape how those tensions are addressed and whether inequalities in human development are reduced.

This note takes a capabilities approach to document the severity of the unfolding human development crisis. Such an approach implies an evaluative framework to assess the crisis and shape the policy response that emphasizes the potential for people to be and do what they aspire in life as opposed to material resources or economic activity. To assess the crisis, the note draws from original simulations that are based on an adjusted Human Development Index—with the education dimension modified to reflect the effects of school closures and mitigation measures—and that incorporate current projections of gross national income (GNI) per capita for 2020. The simulations suggest conditions today would correspond to a steep and unprecedented decline in human development. With almost 9 in 10 students out of school and deep recessions in most economies (including a 4 percent drop in GNI per capita worldwide), the decline in the index –reflecting a narrowing in capabilities– would be equivalent to erasing all the progress in human development of the past six years. Importantly, if conditions in school access are restored, capabilities related to education would immediately bounce back – while the income dimension would follow the path of the economic recovery post-crisis. The simulations also show the importance of promoting equity in capabilities. In a scenario with more equitable internet access—where each country closes the gap with the leaders in its human development category—the decline in human development would be more than halved. This would be eminently affordable. In 2018 it was estimated that \$100 billion would be needed to close the gap in internet access in low- and middle-income countries—or about 1 percent of the extraordinary fiscal programmes announced around the world so far.

The note suggests three principles to shape the response to the crisis:

- *Look at the response through an equity lens.*¹ Countries, communities and groups already lagging in enhanced capabilities will be particularly affected, and leaving them further behind will have long-term impacts on human development.
- *Focus on people's enhanced capabilities.* This could reconcile apparent tradeoffs between public health and economic activity (a means to the end of expanding capabilities) but would also help build resilience for future shocks.
- *Follow a coherent multidimensional approach.* Since the crisis has multiple interconnected dimensions (health, economic and several social aspects, decisions on the allocation of fiscal resources that can either further lock-in or break free from carbon intensive production and consumption), a systemic approach—rather than a sector-by-sector sequential approach—is essential. A recent survey conducted in 14 countries found that 71 percent of adults globally consider that climate change is as serious a crisis as COVID-19, with two-thirds supporting government actions to prioritise climate change during the recovery.²

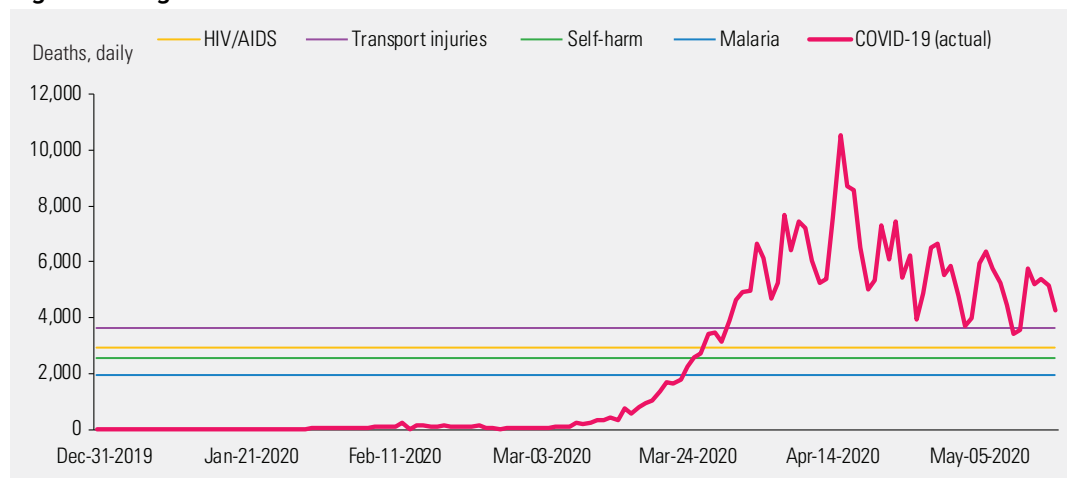
The United Nations has proposed a Framework for the immediate socioeconomic response,³ with which this note is fully consistent and meant to inform and further flesh out both the analysis of the crisis and possible responses.

Finally, the note also highlights the importance of collective action—at the community, country and global levels. And the response to this crisis is showing how people around the world are responding collectively. The adoption of social distancing behaviour—which in some cases started before formal policies were put in place—could not possibly be fully enforced. It depended on the voluntary cooperation of billions of people. And it was done in response to a shared global risk that brought to the fore as a priority something other than having economies grow more rapidly. If we needed proof of concept that humanity can respond collectively to a shared global challenge, we are now living through it.

Introduction

While the effects of the COVID-19 pandemic have yet to be fully understood, it is already clear that, as of mid-May 2020, the number of daily deaths due to COVID-19 is greater than that due to common causes such as malaria, suicide, road traffic accidents and HIV/AIDS (figure 1). In countries at the peak of the current wave of COVID-19, the virus can become the main cause of death, surpassing cancer and coronary disease.⁴ These numbers show the immediate pressure the pandemic is putting on emergency services and health workers and the wider burdens imposed on virtually everyone around the world. During April 2020 alone, COVID-19 caused almost 200 thousands deaths. In addition, the crisis is having also indirect health impacts. It could potential lead to an additional 6,000 child deaths per day from preventable causes over the next 6 months across 118 low-income and middle-income countries countries⁵, with reports of lower child vaccination uptake also in some developed countries.⁶

Figure 1. The global burden of disease: COVID-19 versus other causes



Source: Human Development Report Office calculations based on data from ourworldindata.org (accessed 17 May 2020), and Global Burden of Disease Database for year 2017.

The United Nations has called the COVID-19 pandemic “the greatest test that we have faced since the formation of the United Nations,”⁷ making it clear that it is more than a health emergency, it is a systemic crisis that is already affecting economies and societies in unprecedented ways. The managing director of the International Monetary Fund has anticipated “the worst economic fallout since the Great Depression. Just [in January 2020], we expected positive per capita income growth in over 160 of our member countries in 2020. Today, [in mid-April 2020] that number has been turned on its head: we now project that over 170 countries will experience negative per capita income growth this year.”⁸ It is becoming an acute social crisis in many parts of the world, affecting people’s lives in multiple ways, including a surge in violence against women and disruption in jobs and livelihoods.⁹

Most countries have made tremendous progress dealing with relatively frequent shocks, thanks to continuous learning and preparedness through policies and social norms. However, the ability to respond to very rare or even new shocks is much lower and unequally distributed. Indeed, the 2019 Human Development Report highlighted that among the new generation of capabilities for the 21st century was the resilience to low frequency but very high impact shocks (figure 2).¹⁰

Countries around the world have put in motion a broad set of measures to handle COVID-19 on several fronts.¹¹ Learning is occurring through research, study of other communities’ experiences and a fair dose of trial and error. Policies changing people’s behaviour have been central in the response to contain the spread of the virus: Billions of people have been called to stay at home. Beyond the ongoing response, action over the next few weeks and months will have lasting effects on people’s lives and on the perceptions of the ability of national and multilateral institutions to drive human development.

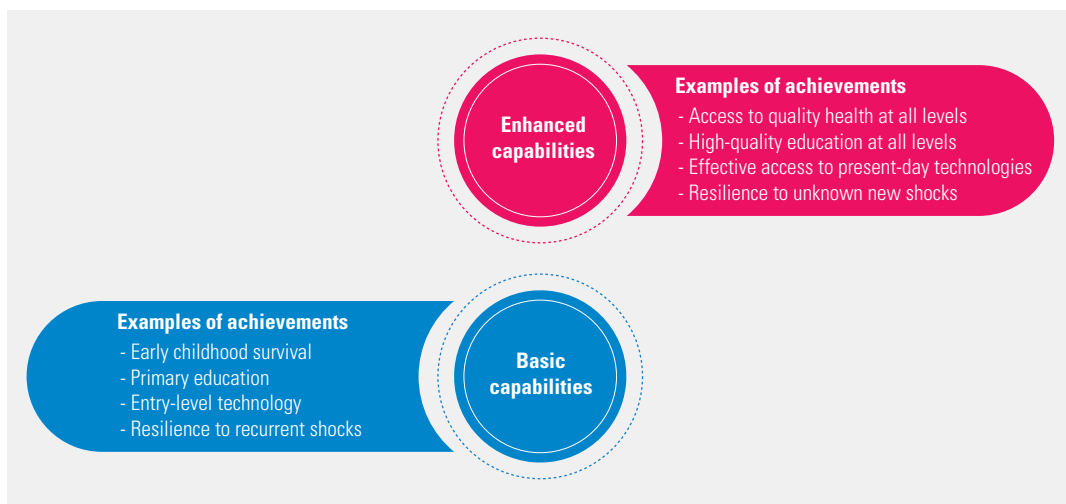
This note explores four arguments. First, this is a systemic human development crisis—affecting health, economic and broad social dimensions of development and potentially eroding gains accumulated over decades. The note shows the compounding effects on health, education and the economy and how responses have to be considered in a context where economic and social activities are being restricted for public health reasons.

Second, without appropriate policies in place, the indirect effects of the crisis can be as taxing or even more taxing than the direct health effects. History shows that crises—even short-lived ones—have long-term effects on people’s human development that are often difficult to monitor and anticipate but that tend to be unequally distributed. COVID-19 is unlikely to be an exception.

Third, investments in advancing and reducing disparities in human development are crucial to ensure a timely recovery and to prepare for the next crisis. From a human development perspective, concerned with expanding people’s capabilities, protecting public health and sustaining living standards are both essential. Advancing and reducing disparities in both basic and enhanced capabilities—the new necessities of the 21st century, as defined in the 2019 Human Development Report—are key to achieving both goals.¹²

Fourth, this systemic crisis hits a world dealing with unresolved tensions: between people and technology, between people and the planet and between the haves and the have-nots—all of which are shaping a new generation of inequalities. But the response to the crisis is an opportunity to reimagine how those tensions are addressed.

Figure 2. Human development: From basic to enhanced capabilities



Source: Human Development Report Office.

COVID-19: A systemic crisis in human development

This is not the first time that humanity is facing a pandemic.¹³ The Black Death upended the structures of economies and societies in medieval Europe.¹⁴ To protect travel and commerce, Italy pioneered quarantines and other containment measures during the Renaissance. Global outbreaks of cholera in the early 19th century led to unprecedented global cooperation on public health in international sanitary conferences during the middle of the 19th century.¹⁵ Almost exactly 100 years ago, large movements of people around the globe in the aftermath of World War I contributed to the spread of an influenza virus that led to one of the most lethal pandemics on record: the 1918 Flu pandemic. And a little over 10 years ago, hundreds of thousands of people died during the H1N1 pandemic.¹⁶ Recent outbreaks of new zoonotic (meaning, that jump from non-human animals to humans) diseases (SARS, MERS) had major impacts in many parts of the world, as did outbreaks of already known zoonotic diseases (Ebola). AIDS has caused more than 32 million deaths since the early 1980s.¹⁷ The still largely unknown characteristics of the virus that causes COVID-19 (which is likely to also have jumped from a nonhuman animal; scientists have been pointing out for years that human pressures on the environment increase the risk that such transmission will become more frequent¹⁸) along with our globalized world spread the SARS-CoV-2 virus in a matter of weeks.

But this pandemic has been unprecedented because of its evolution from a health shock to an economic and social crisis. Social distancing and the pause in nonessential business have slowed human activities. The International Labour Organization projects that in the second quarter of 2020, working hours will fall by the equivalent of 195 million full-time workers.¹⁹ Unlike other crises, employment is being hit through two main channels. A contraction in labour demand comes from reduced human activity and the wealth effects of the global recession. And a short-term drop in labour supply comes from the suspension of nonessential productive activities in several countries.²⁰ The curtailment of labour

supply and increase in unemployment call for appropriate macroeconomic policy. But the effects go beyond the typical decline in aggregate demand that are usually addressed by stimulating consumption and encouraging economic activity. This is because the public health policies to slow the spread of COVID-19 are premised on reducing human interaction and—as a result—economic activity.

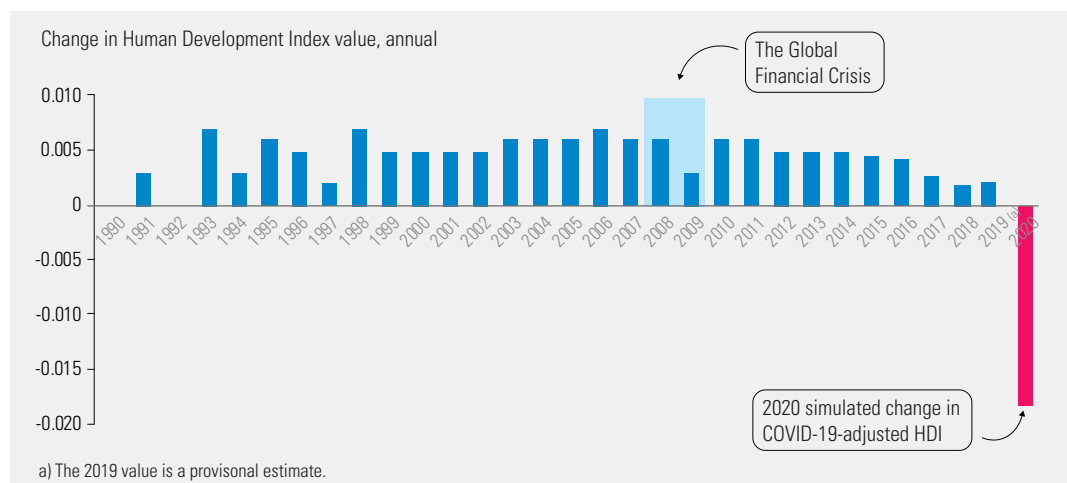
These effects are intertwined with varying propagation patterns. The economic shock can hit countries before the health shock, through income effects, and persist after the health crisis is over. Or even when restrictions to labour supply are lifted, hours worked can remain reduced because of slow recovery in mobility or depressed consumer demand. This calls for novel approaches.

In practice, very high human development countries (for the most part) suffered the health shock first, with the response based on strong health systems and supportive monetary and fiscal policies. Developing economies (with some exceptions, such as China and Singapore) are being affected by COVID-19 with a lag.²¹ But, the health crisis is still evolving and developing countries are expected to be heavily affected during the rest of 2020.²² As an aggravating factor, they are entering the process in the middle of a global economic collapse and rising uncertainty (including in health security, food security and job security), and they have weaker structural conditions with which to cope.²³

These shocks hit a world wealthier than ever but facing deep divides in human development—affecting vulnerability to and preparedness for crises. It is too early for a comprehensive assessment of the consequences of COVID-19 on human development. But it is possible to estimate the likely effects on people's capabilities using a version of the Human Development Index (HDI) that is more sensitive to the effects of COVID-19. This adjusted index retains the standard HDI dimensions but modifies the education indicators to reflect the effects of school closures and mitigation measures. What matters for capabilities is whether students are actually engaged in educational activities, which depends on physical and virtual (internet-based) access to schools and learning resources. The adjusted index also uses International Monetary Fund (IMF) projections of gross national income per capita for 2020. Life expectancy at birth in 2020 (based on United Nations Department of Economic and Social Affairs's 2019 Revision of World Population Prospects) is adjusted by the potential effects of COVID-19 on health, taking the low-impact scenario from a recent study published in the *Lancet Global Health* for child mortality.²⁴ Under this scenario, the global life expectancy at birth in 2020 is expected to be around its level in 2019.²⁵

While not all schools are closed around the world, many are, and simulations using the COVID-19-adjusted HDI project a steep decline in human development worldwide in 2020, led by a massive setback in effective education because of school closures affecting almost 9 in 10 students and deep recessions in most economies (including a 4 percent drop in GNI per capita worldwide). The decline in the index—reflecting the narrowing of capabilities—would be equivalent to erasing all the progress in human development of the past six years. The results of the simulations point to a shock in capabilities that would be unprecedented since the concept of human development was introduced in 1990 (figure 3). If conditions in school access are restored, capabilities related to education would immediately bounce back—while the income dimension would follow the path of the economic recovery post-crisis.

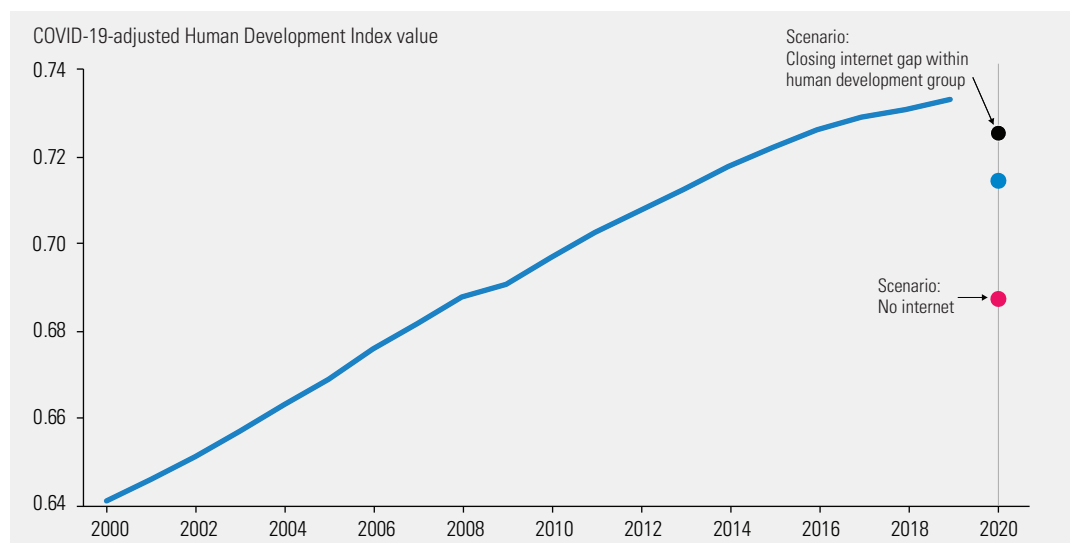
Figure 3. Human development is facing an unprecedented hit since the concept was introduced in 1990



Source: Human Development Report Office simulations based on data from the International Telecommunications Union, the United Nations Educational, Scientific and Cultural Organization Institute for Statistics, and the World Health Organization.

The simulations assume a fast recovery during the second half of 2020, following IMF projections, and count on the full normalization of schools. They do not take into account potential indirect effects. Access to new technologies influences the impact of the crisis and the quality of the recovery. Two scenarios show the importance of enhanced capabilities. First, without any access to internet, the decline in human development would be 2.5 times worse (figure 4). The comparison with this scenario how technology is already providing mitigation mechanisms. Second, with more equitable access to internet—where countries close the gap with leaders in their development group, something doable—the decline is more than halved. The key to facing these shocks is to empower people with capabilities to accommodate the measures needed to deal with the crisis (including the physical closure of schools and workplaces).

Figure 4. The decline in human development due to COVID-19 could be halved with more equitable internet access



Source: Human Development Report Office simulations based on data from the International Telecommunications Union, the United Nations Educational, Scientific and Cultural Organization Institute for Statistics, and the World Health Organization.

The propagation of the crisis to vulnerable groups

Some negative impacts of COVID-19 are being felt harder by certain countries and by groups within countries. For instance, once the health crisis escalated in a few countries in Asia and Europe, developing countries started to experience the effects of economic contagion before any noticeable effect on public health from the virus itself. Some of the impacts in the developing world hit even before COVID-19 contagion, through different channels:²⁶

- *Financial channels.* Short-term capital outflows have been massive—even greater than in the 2008 global financial crisis.²⁷ Capital flight has been particularly intense in China (driven also by the sharp drop in international oil prices). According to the United Nations Conference on Trade and Development, sovereign credit spreads for emerging markets (reflecting country risk assessments) have been following the rising pattern of the 2008 financial crisis.²⁸
- *Trade channels.* Commodity prices (particularly important for developing countries) have plummeted. Both oil and nonoil prices have fallen more than during the 2008 financial crisis—though factors other than COVID-19 were important in the drop in oil prices. The cumulative drop in both is over 50 percent. International services (travel and tourism) have also been severely affected.²⁹
- *Migration and remittances.* Many countries have restricted movement across borders. Migrant workers—who often face precarious conditions in host countries—are likely to experience job losses and income declines; this might affect remittances to their families in developing countries.³⁰

This pandemic is a challenge for every country. But in countries with high inequalities by class, age, gender, ethnicity or residence status, the effects can amplify these differences, at least in the short run. Within countries, certain groups are already being disproportionately affected: older people, women, young workers, migrant households, unprotected workers, people living in shelters, people who are homeless or in informal settlements, and people with underlying health

issues.³¹ Comorbidities appear to exacerbate the negative impact of the virus, with underlying health issues in turn related to social vulnerability: Health issues tend to be more prevalent among people from ethnic minorities or from low-income groups.³²

In most vulnerable households, income often depends on one person, increasing the risk of the whole household falling into poverty. The number of people expected to live in extreme poverty is projected to increase by 40–60 million using economic growth projected by the IMF for 2020 as main benchmark.³³ The number of undernourished people could increase by 14–80 million.³⁴

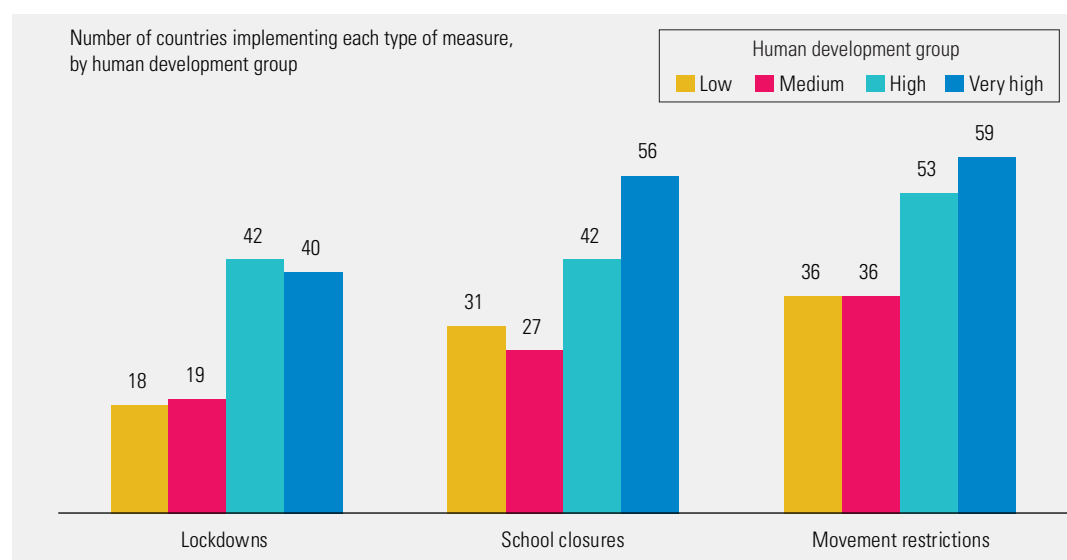
The pandemic is exposing the disadvantages already faced by low-income groups—and magnifying fissures. For instance, social distancing directives to not physically be at the workplace have dramatically unequal implications. People with higher incomes are more likely to be able to work from home—and thus to continue to have earnings and stay healthy.³⁵ People in low-income groups are more likely to be in “essential” occupations—that require workers to come to the workplace and risk exposure to infection.³⁶ A study based on data from mobile devices in the United States³⁷ shows that people in wealthier groups are staying home more than people in low-income groups: In metro areas with the biggest disparities between rich and poor, people in high-income neighbourhoods stopped moving right after official guidance. People in lower income neighbourhoods reduced movement as well, but later and only partially.

The propagation of action to face COVID-19

Nonpharmaceutical interventions

In the absence of a vaccine or therapeutics, most of the measures to slow the spread of COVID-19 have been nonpharmaceutical interventions (figure 5). The strategy of reducing contagion aims not just to protect the most vulnerable populations, but also to avoid excessive pressure on health systems. Even countries with high numbers of hospital beds per 1,000 people can see health services become overwhelmed during the peak of a pandemic.³⁸ So, reducing virus transmission reduces the pressure on the health system and health workers, buying them time to increase and spread capacity.

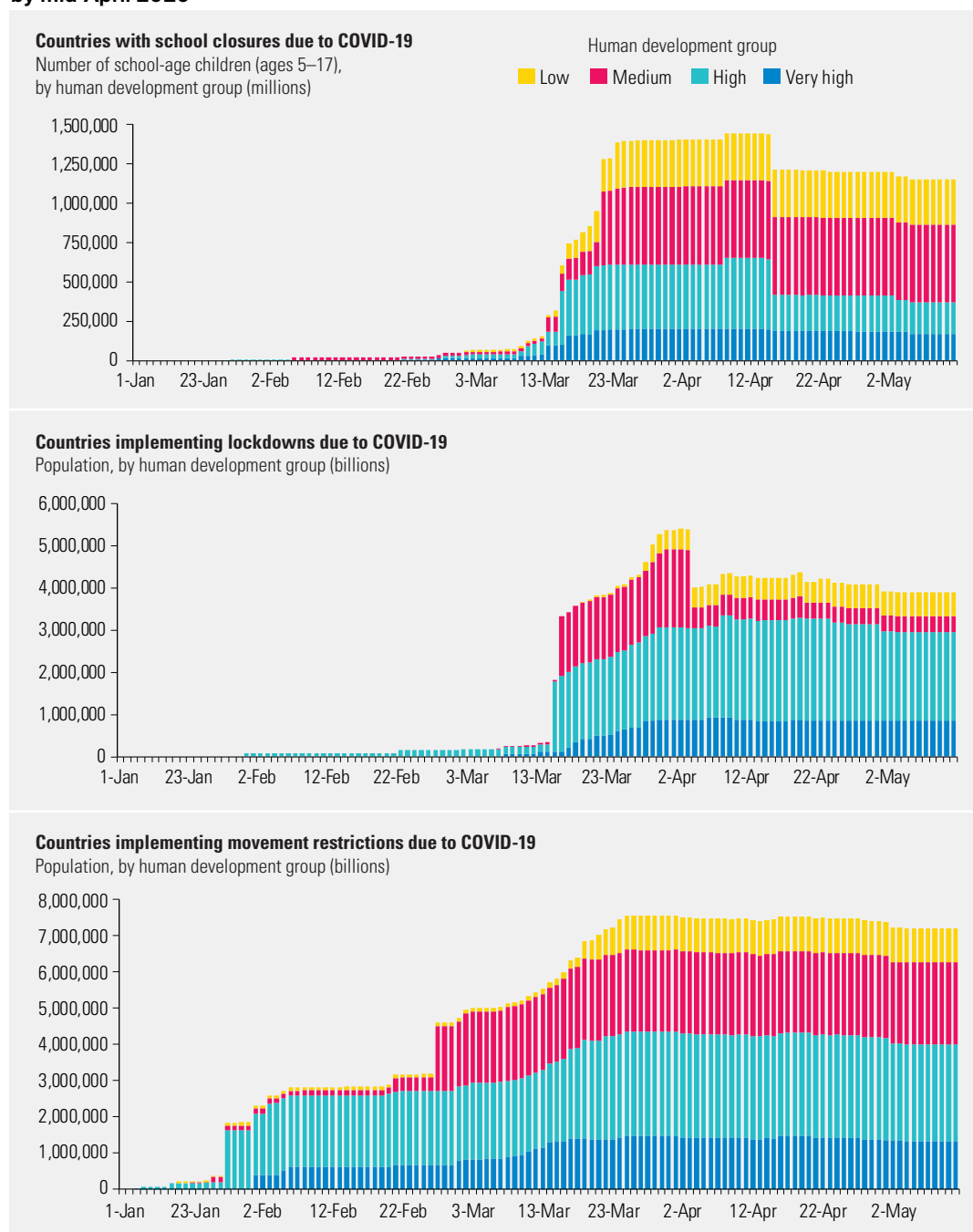
Figure 5. Most countries around the globe have implemented nonpharmaceutical interventions to slow the spread of COVID-19



Source: ACAPS and WHO 2020, 6 May 2020.

Measures that included both internal restrictions (domestic travel, checkpoints, curfews and monitoring) and external restrictions (border closures, international flight suspensions, and visa restrictions or additional requirements on arrival) have been the most widespread, affecting more than 7 billion people in 183 countries by mid-April 2020 (figure 6). Measures related to movement and travel affect tourism and other services as well as global supply chains. By mid-April, more than 1.4 billion children ages 5–17 in 147 countries (or 86 percent of children worldwide) were out of school.

Figure 6. Internal and external restrictions related to COVID-19 affected more than 7 billion people in 183 countries by mid-April 2020



Note: Data are as of 6 May 2020.

Source: ACAPS and WHO 2020.

Economic measures

While it is too soon to assess the economic impact of the pandemic, it is already being described as the worst plunge in economic activity since the Great Depression. In response, as of early-May 2020, most countries had implemented emergency monetary and fiscal measures, and numerous countries had also implemented trade and balance of payments measures. On the fiscal front, more than \$8 trillion has been committed to fighting the crisis across the world.³⁹ In addition to new resources directed to boost health system responses, economic policies have been tailored to support

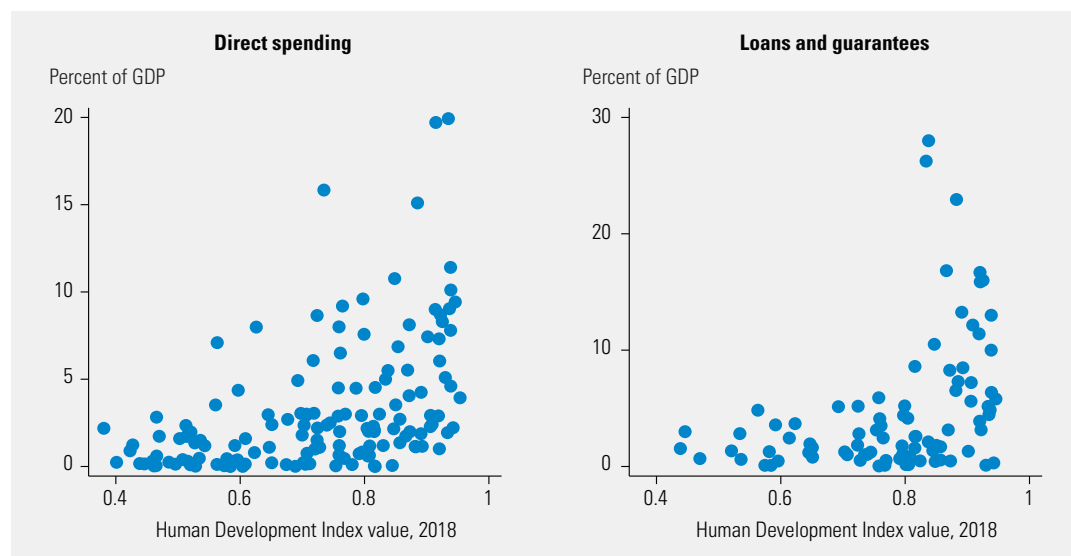
the household, business and financial sectors⁴⁰ by addressing both solvency (by providing diverse subsidies and cash transfers, supporting unemployment insurance mechanisms and offering equity guarantees) and liquidity (by providing credit through multiple channels, postponing tax or financial obligations and purchasing assets).⁴¹

On the monetary front, central banks have cut interest rates.⁴² Given the limited space for conventional monetary policy in an environment of low interest rates, major central banks have resorted to quantitative easing (buying credit instruments in open markets) and other interventions to keep credit markets liquid. There has also been significant international cooperation among monetary authorities. In March 2020, the central banks of Canada, England, Japan, Switzerland and Europe announced swap facilities, increasing the frequency of maturity operations, to boost liquidity. And the US Federal Reserve extended liquidity arrangements with Australia, Brazil, the Republic of Korea, Mexico, Singapore and Sweden to provide US dollar liquidity.⁴³

The response on the economic front is still unfolding, with developed countries leading. By mid-April 2020, 96 percent of very high human development countries had announced a policy package, compared with 85 percent of high human development countries, 78 percent of medium human development countries and 73 percent of low human development countries.⁴⁴ The scale of a country's policies depends on its level of human development (figure 7). The average fiscal package based on direct programmes accounts for 4.9 percent of GDP in very high human development countries but 1 percent of GDP in low and medium human development countries. The pattern is similar for loans and guarantees.⁴⁵

The immense financial cost of these measures during a time of recession and depressed fiscal revenues will result in higher fiscal deficits and public debts, bringing short-term financial restrictions to deal with liquidity needs and long-term financial vulnerability linked to solvency – though mitigated given the context of very low interest rates. Still, credit spreads are opening up, so there is a risk of debt crises without appropriate measures, as called for by the United Nations Secretary-General.⁴⁶ In early April 2020, 90 countries had called for emergency financing from the IMF.⁴⁷ Financial mechanisms—globally coordinated—are needed. Their effectiveness will depend largely on their ability to strengthen people's capabilities in the long term.

Figure 7. The scale of fiscal measures related to COVID-19 depends on a country's level of human development



Source: Based on data from the International Monetary Fund Policy Tracker database (as of 17 April 2020) and Human Development Report Office calculations to account for HDI values.

COVID-19 and history: A costly, long-lasting and regressive crisis?

Shocks have a major impact on human development, with previous crises suggesting two patterns:

- Shocks have long-lasting consequences on human development and can be passed to subsequent generations. Even after an epidemic ends or economic growth returns, the impacts of a shock can leave lasting damage.
- The effects are unequally distributed, with vulnerable groups disproportionately affected.

These patterns underscore the importance of an equity lens. As a crisis unfolds, an active approach identifying its effects and transmission mechanisms can inform timely and equitable action.

It is essential to distinguish between the short-term and longer term impacts of pandemics—and major shocks in general. Drawing from a wide and deep historical analysis, Walter Scheidel has shown that major shocks such as wars and pandemics can reduce income inequality but that the outcome depends on the policy response. When pandemics result in high mortality, the relative returns to labour increase compared with the returns to capital because workers demand higher compensation—in part because there is lower labour supply due to mortality and in part because they are afraid to be infected and demand more to show up for work.⁴⁸

In the aftermath of the Black Death in Europe during the medieval period, where the policy response accommodated these demands, income and wealth inequality fell sharply. Where it was repressed, as in parts of Eastern Europe, it triggered social arrangements based on serfdom that lasted for centuries and led to large and persistent wealth inequalities.

Recent analysis confirms that real wages often increase for a long time after a pandemic.⁴⁹ But real interest rates also decline and remain low for a long time (in part because, unlike during wars, there is no destruction of physical capital), decreasing returns to wealth and making it easier to fund public spending. It is unknown whether these historical patterns will play out in the long-run aftermath of COVID-19, in part because life expectancy now is much higher and mortality may be lower than in previous pandemics. Moreover, interest rates are already very low in developed countries. And beyond income and wealth inequality, the implications for inequalities in human development are even less clear.

To shed some light on possible implications for human development, we explore three examples of recent shocks in three different areas: the economy, health and natural hazards – the latter two may be exacerbated or become more frequent as a result of climate change and pressures on the environment.⁵⁰

Economic shock: The 2008 global financial crisis

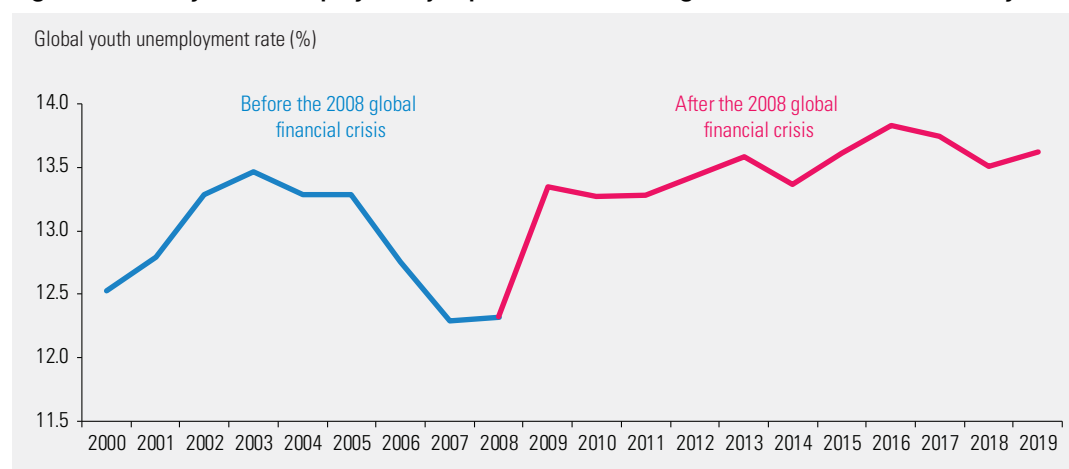
The 2008 global financial crisis, which started in the banking and financial sector, had worldwide and long-lasting impacts. International trade contracted considerably, GDP shrank, jobs disappeared and remittances fell. The IMF documented that 10 years after the crisis, GDP was still below what it would have been on precrisis trend.⁵¹ On the social side, the crisis slowed progress towards the Millennium Development Goals, particularly in Sub-Saharan Africa.⁵²

Some impacts from the global economic crisis were not immediately evident and are being understood only today.⁵³ After the crisis, the pace of technological adoption slowed—even more in countries with higher crisis-related output losses. This is seen in research and development spending and the adoption of industrial robots.

The crisis also affected the direction of technological change. High output-loss countries and low output-loss countries differed in the relative impacts of the displacement effects of technology on the one hand, and the reinstatement and productivity effects on the other.⁵⁴ In developed economies, with large GDP losses as a result of the crisis, technology tended to replace workers, driven by industries with large shares of medium-skilled workers.⁵⁵ But in emerging economies with lower losses, the use of new technologies was accompanied by higher employment growth.⁵⁶

Global youth unemployment jumped after the crisis and has since remained high and even increasing, showing how a shock's impacts can be particularly severe for a vulnerable group (figure 8).

Economic crises threaten health and health system performance. Financial pressure hinders access to health services while need for health services grows. Negative health effects disproportionately affect groups already vulnerable to shocks, such as unemployed people.⁵⁷ Mental health problems also increase.⁵⁸

Figure 8. Global youth unemployment jumped after the 2008 global financial crisis and has yet to recover

Source: Based on data from the International Labour Organization's ILOSTAT database (accessed 30 March 2020).

Health shock: Ebola in West Africa

During 2014–2016, West African countries faced the greatest recorded Ebola outbreak, and one that was unprecedented in which it spread in urban areas. Most of the cases were concentrated in Guinea, Liberia and Sierra Leone, where the combined official death toll was 11,310.⁵⁹ But that figure underestimates the human development cost of the crisis. More people are estimated to have died as a result of the outbreak through indirect channels than from the Ebola virus itself.

Country responses to health crises typically channel resources away from government services and basic health care.⁶⁰ Resources for a disease outbreak focus on addressing the crisis: testing and then managing confirmed cases. Weak social protection and health systems that lack resilience can result in underprovision of social care and health, which eventually can lead indirectly to deaths. Combined with this challenge is health workers' fear of getting infected during the outbreak.⁶¹

The reduction in access to health care during the Ebola outbreak increased estimated deaths due to malaria, HIV/AIDS and tuberculosis by 6,269 in Guinea; 1,535 in Liberia; and 2,819 in Sierra Leone.⁶² Decreases in vaccination rates compound these challenges.⁶³ Further, the health system experienced other consequences, including deaths of health workers.⁶⁴

In Sierra Leone antenatal care coverage fell 22 percentage points, family planning 6 percentage points, facility delivery 8 percentage points and postnatal care services 13 percentage points, during the Ebola outbreak. The reduced access to routine reproductive and maternal services translated into 3,600 additional maternal, neonatal and stillbirth deaths in 2014–2015 under the most conservative scenario.⁶⁵ During a health crisis having accurate information on the outbreak is as important as having information on indirect deaths. The indirect mortality effects of a crisis with a health system that lacks resilience may be as great as the direct mortality effects of the crisis.⁶⁶

Natural hazard shock: Hurricane Maria

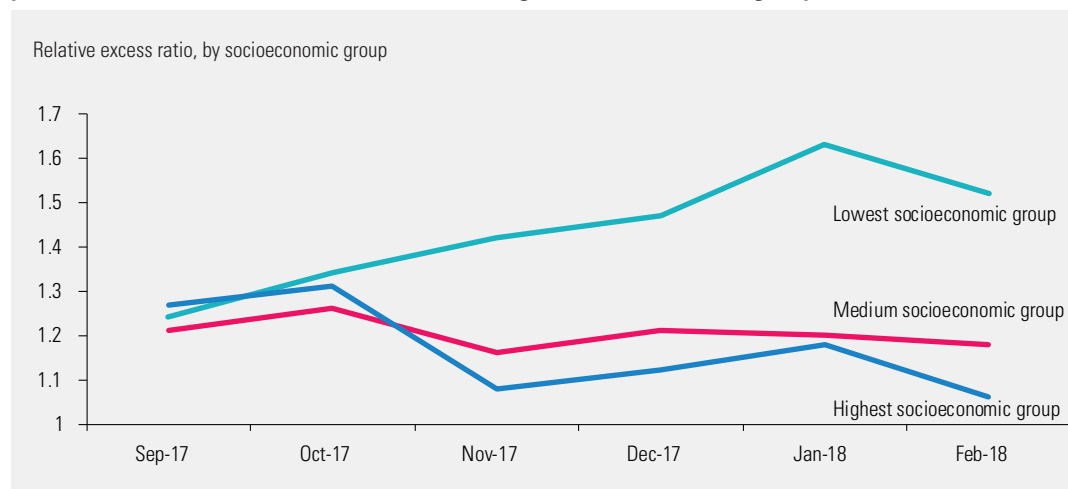
Climate change is supercharging hurricanes.⁶⁷ In September 2017, Puerto Rico was hit by Hurricane Maria, a category 5 hurricane that made landfall as a strong category 4 storm. The official number of casualties was 64. But that figure—released a few days after the hurricane—accounted mostly for those who died during the event.

How many more people died in Puerto Rico as an indirect result of Maria? On 9 December 2017, the *New York Times* published an article asserting that the number of casualties was 1,052.⁶⁸ In 2018 two academic studies estimated even higher numbers: 4,645⁶⁹ and 2,975.⁷⁰ Moving from direct death counts to more comprehensive estimates based on higher mortality following the hurricane makes a huge difference. Statistical systems are often asked to monitor only the immediate effects of shocks rather than the longer term ones.

Social differences influence a hurricane's human impact. Maria affected all social groups but the lowest socioeconomic group the most. And there is a clear divergence in how people recovered: While the medium and highest socioeconomic

groups showed recovery in hurricane-related mortality after two months, the lowest socioeconomic group saw estimated excess deaths related to Maria peak four months after the hurricane (figure 9).

Figure 9. The lowest socioeconomic group in Puerto Rico saw estimated excess deaths related to Hurricane Maria peak two months later than the medium and highest socioeconomic groups did



Note: Socioeconomic groups are based on the Municipal Socioeconomic Development Index developed by the Puerto Rico Planning Board.

Source: GWU 2018.

A human development perspective on how to respond to COVID-19

The policy response to COVID-19 has to balance public health priorities with economic and social activities, accommodating short-term measures to mitigate the spread of the virus and their long-term effects.⁷¹

A human development approach places protecting and enhancing human capabilities as the central anchor guiding analysis and policy, with a systemic and long-term view. The health and economic responses are to be shaped to protect and expand capabilities during and after the crisis: The health response to promote long and healthy lives, the economic response to accommodate a well-calibrated “downtime” with the protection of living standards.⁷²

From this perspective, there is not an intrinsic tradeoff between the health and economic dimensions. Countries and communities able to tackle the health shock through nonpharmaceutical interventions are expected to be better off in the long term; but in the short term, nonpharmaceutical interventions lower economic activity and constrain activities for which social distance is difficult or impossible, such as education in schools.⁷³ If systemic mechanisms are in place and an equity lens is applied—economic and social measures to support nonpharmaceutical interventions—⁷⁴ losses in human development can be greatly reduced in the short term and transformed into opportunities in the long term, linking (to the extent possible) immediate action with structural needs.⁷⁵ If, on the other hand, nonpharmaceutical interventions are not properly implemented—with a focus in preserving or expanding capabilities—, there might be long-lasting costs in wellbeing.

What would a systemic mechanism look like? Standard countercyclical economic policies that consider only the economy are not well suited to a systemic response. The more standard approach will most likely be fully relevant in the recovery phase. But when the shock affects several dimensions at the same time (through direct or indirect channels), balancing short-term need and longer term impacts could be accomplished if the guiding principle for policy decisions is enhancing equity in capabilities.

Inequalities in human development represent a lack of capabilities for a large part of the population. During crises, these inequalities tend to increase, at least in the short run. So, the priority should be reducing these gaps by boosting the capabilities of those who were already falling behind before the crisis.⁷⁶ A strategy consistent with this principle depends on the availability of resources. Without savings, insurance systems or access to capital markets, the national and international public sector has to step in and facilitate transfers to overcome transitory shocks. This requires assistance to those who are being asked not to work or be economically active. This section illustrates how capabilities and their distributions matter to the health and economic responses to the crisis. The support for basic capabilities is crucial to

contain the indirect negative effects of COVID-19 on people. Enhanced capabilities—access to technology, knowledge and quality health services—are not a luxury. They play a key role in dealing with the crisis, in both adaptation and mitigation.

People’s capabilities and the health response

People’s capabilities play a key role in the response to the COVID-19 crisis. Nonpharmaceutical interventions are linked to enablers that make the intervention less costly or facilitate its success (table 1). All the interventions represent a form of social distancing that affects peoples’ ability to interact with others in work, school, shopping, recreation and social life.

Table 1. Recommended nonpharmaceutical interventions

Area	Intervention	Enabler
Home	- Isolate sick people - Quarantine household members of sick people	- Access to computers and to the internet, particularly broadband - Accessible digital services (for ordering goods, food and entertainment) - Safe space (violence-free) - Balanced care work - Continuous flow of income—drawn from existing assets, government transfers or the ability to work remotely for “nonessential” occupations
School	- Close schools and childcare facilities - Reduce children’s social contacts outside school	
Workplace	- Hold conference calls instead of face-to-face meetings - Modify work schedules and have employees work from home	
Community	- Cancel or postpone large public gatherings - Increase distance between people	

Source: Human Development Report Office based on PAHO (2020).

The enablers might reduce the human development losses associated with COVID-19 restrictions in multiple dimensions, opening alternative capabilities: access to goods and services, access to income-generating activities, access to education and access to social life and recreation opportunities. They both increase the likelihood of the interventions’ success and reduce their human development costs.⁷⁷ In other words, without these enablers there is the risk of a tragic choice between nonpharmaceutical interventions at an extenuating human cost and lack of nonpharmaceutical intervention effectiveness.

Most of the enablers are related to enhanced capabilities—the new necessities of the 21st century—which are unequally distributed across the population. As documented by the 2019 Human Development Report, gaps have been widening over the past few years.⁷⁸

These enhanced capabilities can reduce the impact of the downtime to overcome the health crisis caused by COVID-19. Thus, in low human development communities, nonpharmaceutical interventions will tax people’s welfare more and thus can also be less effective. Forming enhanced capabilities—even during these critical times—would reduce such disparities.

The emphasis on enhanced capabilities does not mean that the work on basic capabilities is done. On the contrary: 785 million people still lack access to basic sources of clean water, and around 3 billion people lack a basic handwashing facility with soap and water in their household.⁷⁹ Failing to address basic capabilities in the response to the COVID-19 crisis could even reverse the convergence documented in the 2019 Human Development Report.

Access to technologies

The unequal access to technologies is having a sizable effect on communities’ ability to confront COVID-19.

Inequality in household means and support leads to unequal experience with online learning. The disruption in education due to COVID-19 has been unprecedented. Schools have closed nationwide in at least 147 countries, affecting more than 1.4 billion children and youth, around 86 percent of the world’s student population.⁸⁰

This is a staggering development for school-going children, with long-term consequences for their potential. The extent to which formal schooling is substituted with learning at home—through parent involvement, own initiative and internet availability—is a function of household means and support.⁸¹ As the 2019 Human Development Report indicated, parents’

education shapes children's learning. In the US, children of professional parents are exposed to more than three times as many words as children in households that receive welfare benefits.⁸²

Public education is meant in part to be an equalizer, to the extent that it can break the intergenerational transmission of inequality. Quality education, regardless of parent education background, is meant to provide equal opportunity to everyone. By disrupting schooling, the pandemic is taking that away from hundreds of millions of children and making it harder to break the intergenerational transfer of disadvantage.

In many countries, school systems and universities have moved their courses and learning online. As examined in the 2019 Human Development Report, access to technology is unequal across countries.⁸³ And while there is convergence in basic technologies such as mobile phone subscriptions, digital gaps between countries and within countries are widening in other technologies such as access to computers, internet and broadband—all examples of enhanced capabilities (see figure 10).⁸⁴

The interaction of the pandemic and the inequality in enhanced capabilities means that many countries lack the option to move courses and schoolwork online. If things continue, the countries left behind will also lack this option in the near future (divergence). The digital gap is responsible for a great dispersion in effective out-of-school rates in 2020 (Box 1).

Box 1. Out of school during COVID-19

With more than 1.4 billion children's schools closed indefinitely, new technology-based measures are being used to continue the learning process. This positive development from the recent technological revolution supports the resilience to shocks in education, a key human development dimension.

So, what is the effective out-of-school rate after considering these efforts? Adjusting the percentage of primary, school-age children facing school closures to account for households with access to the Internet—and opportunity to continuing structured learning sheds some light on this question. The result represents a lower bound of the out-of-school rate—or the best performance that the school system can deliver given the structural conditions—because it assumes that every child with internet access can continue the learning process. In other words, it is an optimistic estimate of the social ability to keep children in school. It is also an optimistic estimate of inequalities between country groups because it assumes that it is equally challenging to implement these systems in every context (with high or low income, with or without broadband, with or without proper hardware).

The effective out-of-school rate has jumped substantially everywhere (even under optimistic assumptions). The effective out-of-school rate for primary education is highest in low human development countries (86 percent, an increase of 59 percentage points), followed by medium human development countries (74 percent, an increase of 67 percentage points, which is the largest reversal) and high human development countries (47 percent, an increase of 41 percentage points; box figure 1). Only in very high human development countries do the majority of primary school-age children have the potential to continue structured learning, with an effective out-of-school rate of 20 percent (an increase of 19 percentage points).¹

Overall, this is the largest reversal of this indicator in history, opening new gaps in human development. Being out of school—even for a limited amount of time—is expected to have long-term impacts on learning, earning potential and well-being.

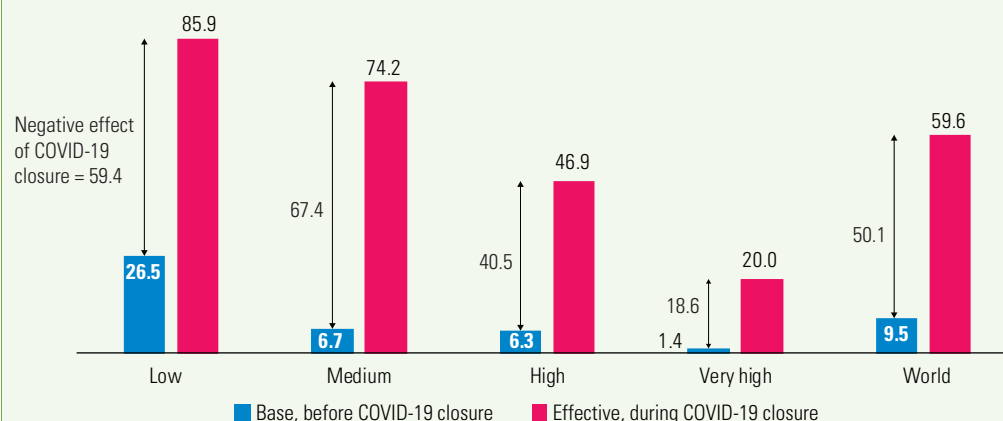
This short-term analysis is based on countries experiencing school closures, which are expected to last only a few months. What happens with the global picture for 2020? Assuming that school closures last for only one-fourth of the academic year (a conservative assumption based on the experience of several countries in Europe and North America), the annualized effective out-of-school rate for primary education for 2020 is expected to reach 20 percent. This massive setback brings the out-of-school rate to its 1985 level. Technology's role can be assessed using two scenarios (box figure 2). Without internet access, the effective rate would reach 29 percent, a five-decade reversal. Inequality's role in new aspects of human development can be assessed in a second scenario. If countries had the internet access rate of the best performers in their human development groups, the out-of-school rate would be 12 percent.

Some measures have been rolled out quickly to bridge the divide within countries. For instance, New York City distributed 175,000 laptops, iPads and Chromebooks before remote learning started, and one internet provider has offered households with K–12 and college students free wifi access and broadband for 60 days.² While developed

countries are likely to start implementing some of these measures, the principles behind them should be the basis of a worldwide effort to close the gaps in access to technology.

Box figure 1. The short-term effective out-of-school rate for primary education has jumped substantially for all human development groups

Short-term effective out-of-school rate for primary education, second quarter of 2020 (% of primary school-age children)



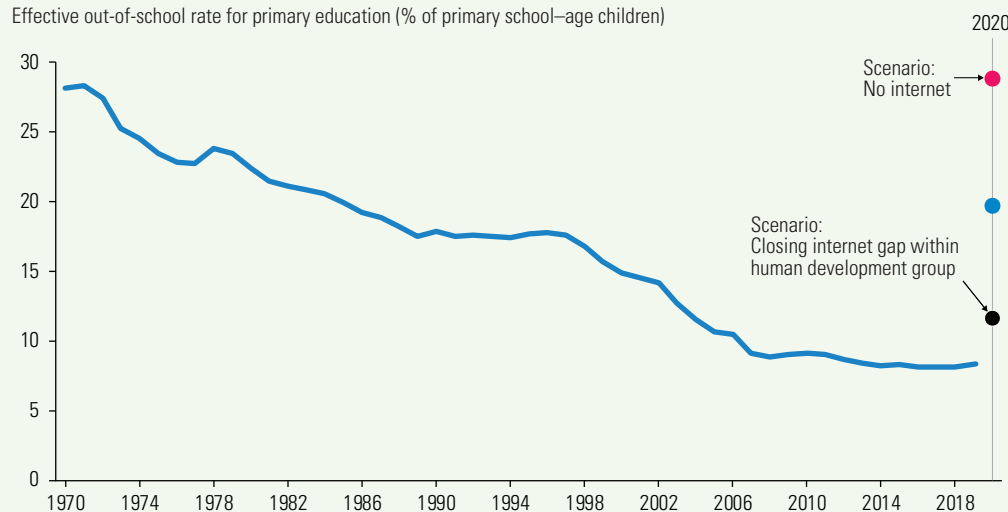
Note: Data account for 86 percent of students in primary school-age children worldwide.

Source: Based on data from the International Telecommunication Union, the United Nations Educational, Scientific and Cultural Organization Institute for Statistics and the World Health Organization.

This is a matter of human rights: In the 21st century “the same rights that people have offline must also be protected online.”³

Box figure 2. Inequality in internet access will have a major effect on the long-term out-of-school rate for primary education

Effective out-of-school rate for primary education (% of primary school-age children)



Note: Scenarios assume that school closures in countries that have already implemented this measure last for only one-fourth of the academic year.

Source: Human Development Report Office calculations based on data from the International Telecommunication Union, the United Nations Educational, Scientific and Cultural Organization Institute for Statistics and the World Health Organization.

Notes

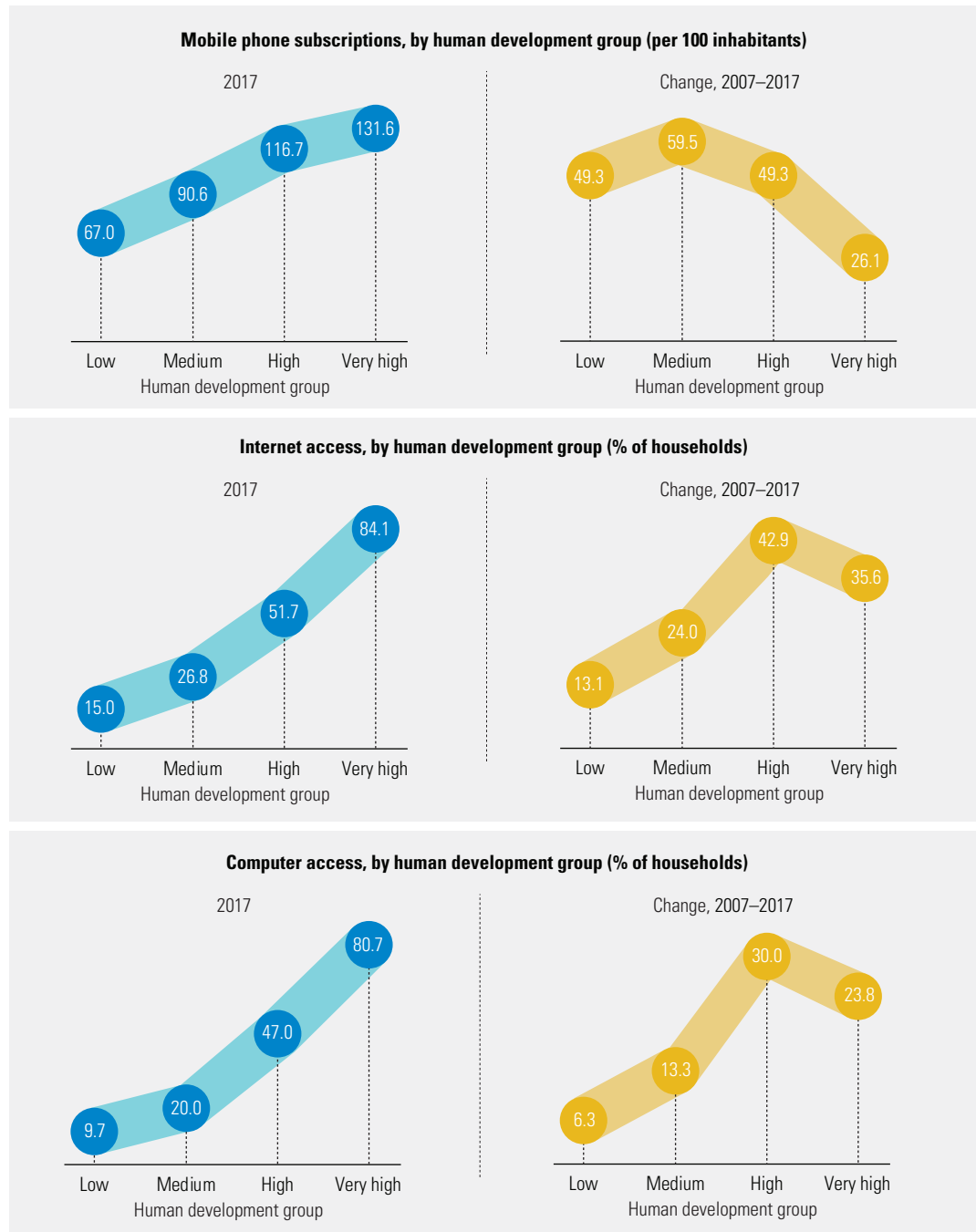
1. The effective out-of-school rate has several caveats. First, a different indicator could be used to reflect access to online learning. Second, other factors such as access to a device in the first place and having a personal device are not accounted for. Overall, this measure provides a rough estimate of the disruptive impacts of school closure.

2. Zimmerman and others 2020.

3. UN General Assembly 2016.

Even in countries that have moved schooling online, not everyone has the same experience, and outcomes are mediated by inequality. In very high human development countries there are only 28.3 subscriptions of broadband internet per 100 inhabitants (see figure 10). In other words, even in rich countries, not everyone has access.

Figure 10. Inequalities in access to technology across human development groups are wide and growing



Source: Based on UNDP (2019) and data from the International Telecommunications Union.

In China 56–80 million people reported lacking either a web-enabled device or an internet connection in 2018. Broadband can be expensive outside cities, and differences are vast in the availability of personal devices, especially when multiple devices are needed for parents and their children.⁸⁵

To take another example, the New York City Department of Education has moved all school learning online in March 2020. A majority of the city's public school students are poor, and 114,000 are homeless. More than 300,000 lack access to a personal computer or tablet that they can use for their schoolwork. In many households they must share with siblings or parents. Early reports indicate that many face barriers due to spotty internet connections or no internet access at all.⁸⁶

Access to a dedicated device, a stable broadband connection and parent inputs together mean that the pandemic is likely to have long-term human development impacts, more so for some countries and for some groups within countries. In addition, to ensure inclusive learning, it is important to make accommodations for students with special needs, including those with learning disabilities.⁸⁷

The importance of the internet goes beyond education. In the context of the COVID-19 crisis, different critical aspects of human development have come to depend upon online resources and applications: the ability to work, buy, stay healthy, denounce domestic violence, interact socially, enjoy contact with loved ones. The generation of new solutions to overcome the effects of the crisis are likely to intensify the reliance on technologies going forward. Development targets are shifting.⁸⁸ Disadvantaged groups lacking access to the internet are more likely to be left behind. Among them, older adults—concentrating most of the deaths from COVID-19—, face the challenge of an extended period of restricted mobility with very limited access to the new technologies to buy, pay bills, receive government support.⁸⁹ There is a large space for public policies expanding the accessibility of technologies, leaving no one behind. After decades of growing inequalities in this area, it is time for an equality upgrade.

Safe space and balanced care work

The COVID-19 pandemic is compounding risks to further progress towards gender equality. The crisis is deepening pre-existing inequalities and exposing vulnerabilities which are in turn amplifying the impacts of the pandemic. The impact on women and girls spans economic (earning less, saving less and job insecurity), reproductive health, unpaid care work, bargaining house power and gender-based violence.⁹⁰

At the household level, gender inequalities are perpetuated through a vicious cycle of powerlessness, often rooted in gender social norms, that forces women to face heavily restricted or even “tragic choices.” Because of nonpharmaceutical interventions, many women are being asked to stay home and isolate in a space that is supposed to be safe. There, they are forced to confront the reality of their households, where they carry a disproportionate burden for unpaid care work and where their exposure to domestic violence increases.

Globally, women average 2.5 times as much unpaid care and domestic work as men. This affects women's labour force participation, hinders their productivity and limits their opportunities to allocate time.⁹¹ And the closure of childcare and schools has had a differential effect on them, since they provide most of the care in their households for their children and older adults.⁹² As for other inequalities, gender inequalities in enhanced capabilities can be exacerbated by measures taken during the pandemic if households lack enablers. Under such conditions, women will see their burden increase and their effective labour participation and productivity—enhanced capabilities—constrained, limiting their opportunities to live at their full potential at work and in their households. In the United States married women provide 60 percent of unpaid care work even among couples who work full time. If the relative distribution of the burden remains the same and unpaid care work needs rise by 20 hours a week during the pandemic, this means 12 hours more a week for women and 8 hours more for men.⁹³ Without arrangements for flexible work hours, one spouse will likely have to temporarily cease or reduce hours in paid employment. Because of the patterns in labour division, this is more likely to be the woman. The permanence of women in their households poses a challenge for their bargaining power and participation in household decisionmaking.

One of the cruellest forms of disempowerment is gender-based violence—it magnifies inequalities and reflects traditional social norms that legitimize harassment and discrimination. More than a third of women—and more than two-thirds in some countries—have experienced physical or sexual violence inflicted by a nonpartner. Violence against women can be perpetuated through social norms or attitudes. Globally, 30 percent of people believe it is justifiable for a man to beat his partner.⁹⁴ These behaviours and attitudes threaten not just women but also their children, especially when women face shocks such as earthquakes, hurricanes or health emergencies.

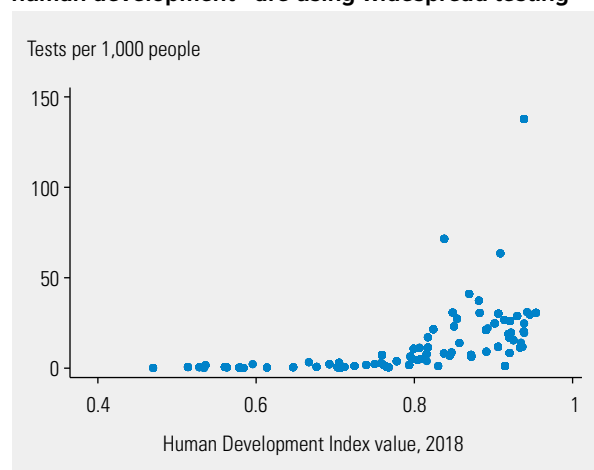
While it is too early for comprehensive data, there already are many deeply concerning reports of increased violence against women around the world. Reported cases have doubled in some countries.⁹⁵ Around the world—with preliminary evidence from Argentina, Brazil, Canada, China, Cyprus, France, Germany, Italy, Spain and the United States⁹⁶—there is a consistent pattern of increased domestic violence cases reported due to COVID-19 isolation.⁹⁷

Underlying gender inequalities affect women's fundamental capabilities and opportunities, elevating the costs of pandemic measures. When applying nonpharmaceutical interventions, it is important to clearly communicate the consequences of amplifying gender inequalities in enhanced capabilities. For unpaid care work, governments can use several mechanisms to lessen the burden—for example, increasing investment in child and elder care, implementing more flexible work arrangements or conducting media campaigns to shift traditional household norms.⁹⁸ Staying home creates a window of opportunity to change social norms and role models, perhaps pushed by fathers more involved in unpaid care work.⁹⁹ For gender-based violence, it is important to make resources available to report, control and manage cases; to guarantee health services and shelters for survivors of domestic violence; and to ensure the continuity of judiciary services.¹⁰⁰

Inequality in public health and innovation systems

Inequality in human development affects countries' capacity to respond to COVID-19. Countries with lower human development have a fraction of the resources of developed economies to support their health systems. Their health expenditure is 4.5 percent of GDP, compared with 12.1 percent for very high human development countries (with GDP per capita that is 15 times larger).¹⁰¹

Figure 11. Very few countries—even those with higher human development—are using widespread testing



Source: Human Development Report Office calculations based on data from ourworldindata.org (accessed 28 April 2020).

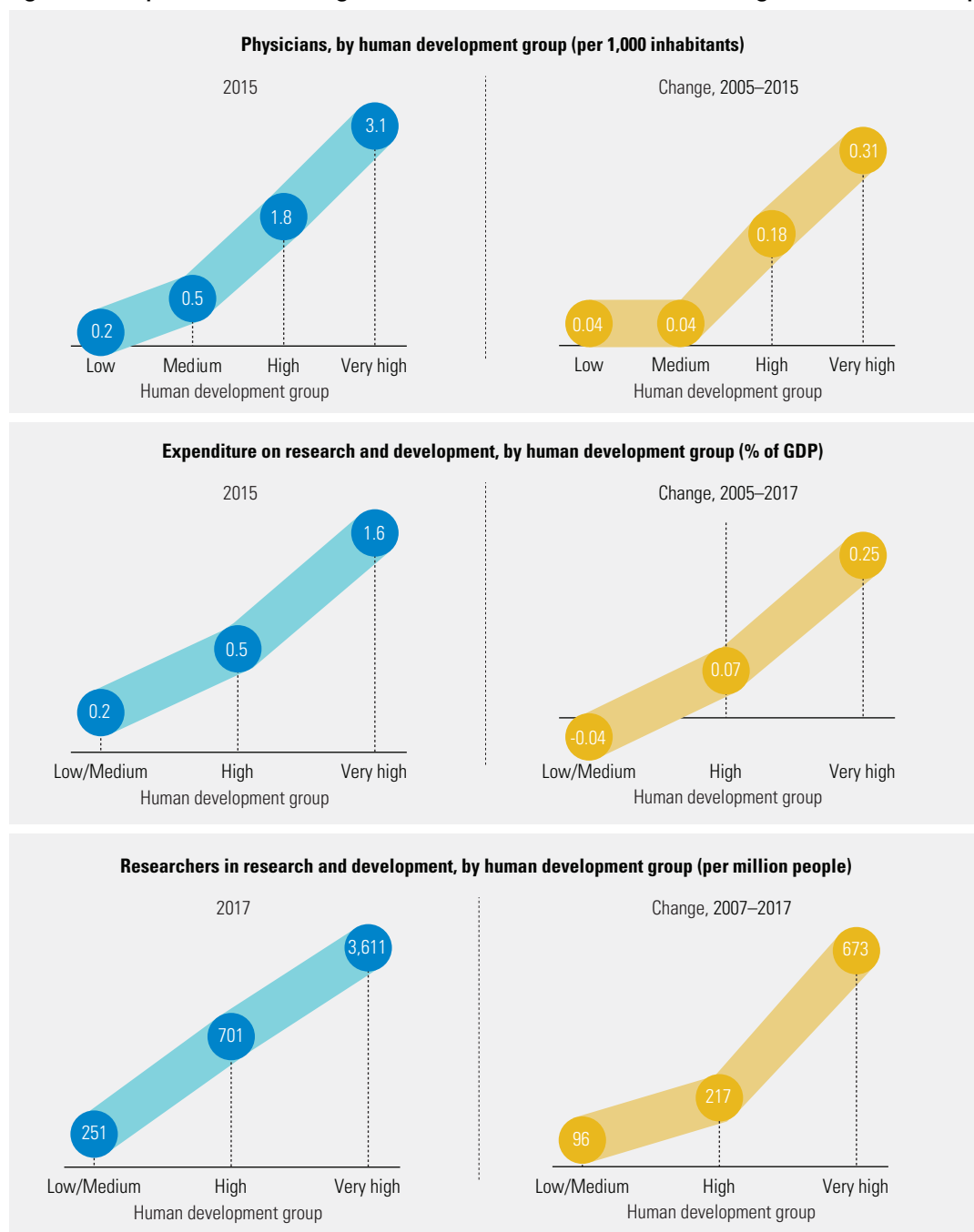
The availability of resources is intertwined with the ability to react to a crisis at multiple levels.

First is the ability to monitor the crisis for decisionmaking. Very few countries are conducting widespread testing, crucial for decisionmaking at the individual, community and national levels. The logistics have proven difficult even in developed countries.¹⁰² Data are unavailable for a large number of developing countries, suggesting very limited capacity to test and implement containment measures, such as contact tracing (figure 11).

Second is the ability to treat those requiring medical attention. Low human development countries have only 0.2 physician per 1,000 people, compared with 3.1 in very high human development countries (figure 14). This gap has been growing over the past decade, reflecting widening inequalities in enhanced capabilities. Similarly, the availability of hospital beds has become one of the biggest constraints for health systems.¹⁰³ This is related not only to development gaps between countries but also to inequality within countries,¹⁰⁴ particularly in the context of weak universal health services.

Third is the ability to develop new products and services to adapt to the changing circumstances in the health system and beyond. Investment in research and development (in terms of expenditure and human resources), a proxy of the ability to innovate, is highly correlated with human development level (see figure 12). The already large gaps have widened over the past decade.

Figure 12. Inequalities in knowledge and innovation are intense and widening in all human development groups



Note: Data are simple averages across countries in each human development group.

Source: Based on UNDP (2019) and data from the World Bank World Development Indicators database.

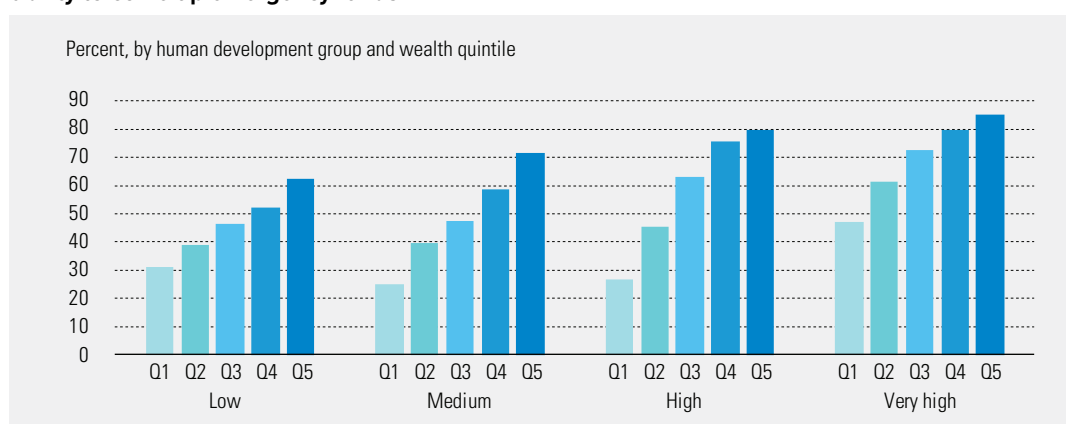
People's capabilities and the economic response

The economic shock is already hitting countries, communities and people. Both the cost of the health-related measures and the propagation of “bad news” through normal economic channels will affect consumption, investment and production decisions.¹⁰⁵ The standard prescription for negative economic shocks is countercyclical economic policy to smooth consumption. These were used intensively during the 2008 global financial crisis.¹⁰⁶

However, the COVID-19 crisis poses several special challenges to policymakers, both because of the pre-existing weaknesses of the global economy and because of the special characteristics of this crisis.¹⁰⁷ Throwing resources at the economy might not suffice. As discussed, during a lockdown the priority is not to stimulate demand, as in a standard recession with a shortfall in aggregate demand. The key objective is to design policies that deal with the current compound crisis and promote inclusive human development in the coming years and for future generations. An equity lens is essential because existing inequalities mediate the impacts of the crisis on human development.

Losses in income for workers who were in precarious employment are likely to increase poverty and deprivation across key human development outcomes. Across all levels of human development, people in low-income groups are much more vulnerable, in part because they lack the ability to come up emergency funds (figure 13). They are days away from a collapse in living standards. The economic response would need to reach those weak links of the social and economic fabric as well as those who have already been left behind, supporting their basic capabilities and enabling subsistence.¹⁰⁸ Improving access to social protection is one policy that reduces existing inequality and promotes human development objectives by empowering people.

Figure 13. People in low-income groups are much more vulnerable during the COVID-19 crisis because they lack the ability to come up emergency funds



Note: Data are weighted averages across quintiles in each human development group. In this database, the sources of emergency funds are savings, family and friends, money from working, borrowing from a bank, selling assets and other.

Source: Human Development Report Office calculations based on data from the World Bank Global Findex database.

Some enhanced capabilities (such as access to new technologies) play a crucial role from the economic side. Households with access to modern technologies are better equipped to maintain economic interactions, including education, continuity of work activities (telecommuting) and access to telemedicine and to consumer goods ordered online. Households without access to the internet and other technologies have fewer options (reducing even their ability to apply for and receive government support). Thus, improving access to devices and the internet is another policy to address inequalities, building people's capabilities to face the COVID-19 restrictions without losing key social interactions, including those that might generate income. On the supply side of the economy, the survival of many companies under heavy movement restrictions depends on their ability to adopt different forms of e-commerce.

As the 2019 Human Development Report documented, policies supporting equality can promote equality in basic and enhanced capabilities while also promoting inclusive growth.¹⁰⁹ The portfolio includes pre-market policies that help reduce disparities before the market; in-market policies that shape wages, labour participation rates and profits; and policies related to post market distribution. In the current context, the focus should be relevant enablers (basic and enhanced capabilities) that support the nonpharmaceutical interventions first, and then on a speedy recovery. Pre-market policies support individual capabilities, like access to the internet, knowledge and the protection of health. In-market policies support the ability of workers and firms to pause without destruction of productive capacity or operate safely. Post-market policies support social protection through appropriate mechanisms, leaving no-one behind. Once the health crisis is over, the traditional macroeconomic policies to address economic downturns may be once again more relevant, with a focus on aggregate demand stimulus—with a progressive bias reaching the bottom of the distribution.¹¹⁰ That is where people are cash-strapped, where the propensity to consume is the highest and the funds will flow directly into the economy, providing the desired stimulus with multiplier effects.¹¹¹

Every society is coming together now to find the resources and the creativity to enact policies for the unfolding economic shock—policies that reflect each society's values. Some will find space to expand their economies by pushing the formation of technology capabilities, health capacity and knowledge to respond to the current crisis. A wave of innovation

is already being scaled up to support the response on multiple fronts. This is also a time to reflect collectively on the choices being made, and the choices that need to be made, given where a country wants to be in the coming decades for future generations.

It is time for bold action. In 2018 it was estimated that \$100 billion was needed to close the gap in internet access in low- and middle-income countries.¹¹² Though a sizable amount, it is a fraction (about 15 percent) of the income that those countries will lose in 2020. This investment is equivalent to around 1 percent of the extraordinary fiscal programmes that the world has committed to date. Today, this is a timely investment that would facilitate the recovery and welcome half the world's population to some of the opportunities of the 21st century.

Beyond COVID-19: Transforming our world?

As history teaches, the impact and responses to pandemics have the potential to reshape the world for generations to come. As the consequences of the crisis unfold—including the effects of responses amid great uncertainty—articulating a vision can contribute to frame policies for outcomes aligned with the aspirations of the 2030 Agenda for Sustainable Development and the Sustainable Development Goals.

Over March and April 2020 unprecedented policies interrupted the normal functioning of economic and social life. Now, concern is moving rapidly towards the economic dimension—rightly so, given the depth of the fall in output and its social effects. This trend will strengthen as countries and communities go through the pandemic wave (or waves) to find themselves under financial pressure. In this context it is essential to preserve the human development lens, to focus on people.

This note highlights three elements for a vision for the policy response:

- *Look at the response through an equity lens.* Countries, communities and groups already lagging in enhanced capabilities will be particularly affected, and leaving them further behind will have long-term impacts in advancing human development.
- *Focus on people's long-term capabilities.* This could reconcile apparent tradeoffs between public health and economic activity (a means to the end of expanding capabilities) but would also help build resilience for future shocks.
- *Follow a coherent multidimensional approach.* Since the crisis has multiple interconnected dimensions (health, economic and several social aspects), a systemic approach—rather than a sector-by-sector sequential approach—is essential. The United Nations has already presented a roadmap along these lines in its initial framework for immediate socioeconomic responses.¹¹³

But there is something deeper in this crisis. It overlaps and interacts with other ongoing global tensions: between people and technology, between people and nature, and between the haves and the have-nots—which were already shaping a new generation of inequalities.¹¹⁴ Even at a peak in its economic development, humanity was already under heavy stress, as shown by a greater sense of economic insecurity, scientific warnings about the risks of catastrophic disaster coming sooner and stronger than expected as a result of climate change, and waves of protest and social unrest erupting since 2019.¹¹⁵

The management of the crisis can shape outcomes in 2021 and beyond. In particular, the policy responses can facilitate, or make more difficult, managing the other underlying tensions, as they will have important consequences for productive sectors, nature and people.

How to deal with these tensions, in a context of competing views about the future and the urgency to act while thousands of lives are lost every day? A phased approach would, first, make use of the existing global consensus in the broad definition of policies and, second, find new tools to accelerate progress towards the Sustainable Development Goals.

First: Use today's existing institutions and policies. With sizable funds to be spent over the next few months to overcome current challenges, their interactions with macro tensions cannot be overlooked. While it is difficult to target the uses of resources during stressful times, global consensus—in the form of the Sustainable Development Goals and the Paris Agreement—provides a framework to guide interventions.

Governments are fast-tracking plans to support the health sector and a weakening economy. We are witnessing perhaps the greatest fiscal response in history (amounting to more than \$8 trillion dollars).¹¹⁶ The policies to be implemented have the potential to affect the shape of technological innovation, the energy mix between renewables and fossil fuels and

the distribution of wealth. There will be several practical—unavoidable—choices: about rescuing productive sectors, promoting different types of innovations with different effects on job creation, redesigning social services, investing in infrastructure and distributing the cost of action with implications for taxpayers.

These are public resources—people’s money. They will be diverted from other important uses or increase the burden of future generations. So, there must be transparency and accountability in human development terms—in people’s capabilities to lead the lives they value in harmony with the environment. A recent analysis that combines an extensive literature review with a survey of leading policymakers in economics and finance suggested five priorities for the allocation of fiscal resources that would enhance both the welfare impact and climate goals.¹¹⁷ They were: clean physical infrastructure investment, building efficiency retrofits, investment in education and training to address immediate unemployment from COVID-19 and structural unemployment from decarbonisation, natural capital investment for ecosystem resilience and regeneration, and clean R&D investment.

Second, accelerate action through innovation and more ambition. We should not deny ourselves a deep reflection informed by recent developments. The COVID-19 crisis will be over, just as other past pandemics are, as immunizations or treatments are developed. But it will leave a mark on human and development losses and form a portrait of ourselves under pressure: how prepared we were for this crisis, how we reacted to it, what became essential, what became superfluous, what were our revealed choices. This crisis is also a reminder of our core relationship with nature: we are all part of and depend upon a complex web of life that we have put under heavy stress.¹¹⁸ Climate change is just one of the unintended consequences of current development paths—ecosystems are also being affected by human pressure, with evidence of major biological extinction accumulating.¹¹⁹

As people shelter in place, they wonder both about the reality they will encounter when normal movement resumes and about the future that lies ahead. There might also be a shift in people’s values and priorities in the face of a future likely to bring more of these crises, increasing human vulnerability.

Perhaps one of the more glaring aspects of the response to the crisis is to remind us of the importance of collective action – actions that we take thinking not only of ourselves but on behalf of everyone. It is evident that everyone remains vulnerable until the spread of the virus is stopped everywhere – until a vaccine or treatment are deployed. A recent Bank for International Settlements paper modelled the impact of these spillovers and spillbacks, finding as the key conclusion: “International coordination of macroeconomic policies is crucial at two levels. First, uncoordinated confinements raise the possibility that the virus will re-emerge sequentially across the globe. This would mean repeated confinements and their associated heavy toll on economic activity. Second, even a country that engineers a domestic policy package that successfully limits its domestic slowdown will not be immune from insufficient or ineffective policies put in place in other parts of the world. No one can hide from the consequences of a pandemic, and unilateral macroeconomic policies are doomed to fail.”¹²⁰ Recent evidence from one country suggests that one of the best predictors of the effectiveness of social distancing measures is attitudes to climate change. A key conclusion: “But the problem isn’t limited to the coronavirus. When we do get past this crisis, we will face a set of new challenges, along with others that have been around for decades but are becoming more urgent. How does our economy recover from COVID-19? How do we deal with the long-term rise of economic inequality, and the persistence of racial inequality and injustice? What do we do about the opioid epidemic? And how do we respond to climate change? All these challenges require a collective, unified solution, and difficult decisions to protect the entire society and future generations.”¹²¹

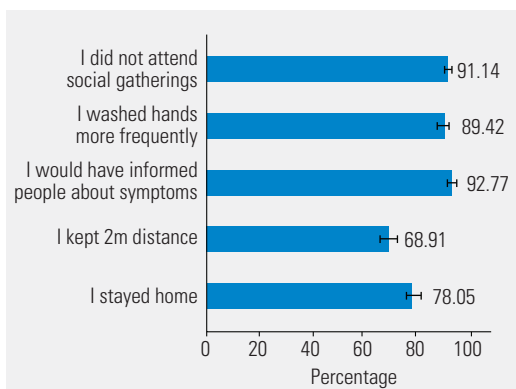
And yet, at some level, people around the world have responded collectively. The adoption of social distancing behaviour—which in some cases started before formal policies were put in place—could not possibly be fully enforced and depended on the voluntary cooperation of billions of people. Compliance, based on a recent very large survey based on more than 100,000 responses in 58 countries between late March and early April 2020, was at or above 90 percent of the population for key social distancing measures (see figure 14). And this was done in response to a shared global risk that put forward as a priority something other than having economies grow more rapidly. If we needed proof of concept that humanity can respond collectively to a shared global challenge, we are now living through it.

Learning from this crisis, in addition to the evolution in values and priorities, will affect our views of what human development looks like as we move into the middle of the 21st century and of what we are willing to do to get there. While the existing consensus already captures the need for combining social, economic and environmental goals in a universal and inclusive agenda, humanity is not on track to follow through. The world is off track to curb climate change, and it is witnessing a new generation of inequalities in human development on the rise, and still expecting to have 400 million people living in extreme deprivation by 2030.¹²² Actions must be bolder and more coordinated.

One way of moving us to more forceful action is to reflect on some of the implications of the pandemic and to lock in and build on some of the gains achieved. For instance, the digital economy and society became the only way to sustain economic activity and social interaction for billions of people. Further use of tele-education and telemedicine could

expand access to these services, if investments are made in reducing inequalities in enhanced capabilities. As another example, the sharp reduction in economic activity is also being reflected in less pollution and most likely in greenhouse gas emissions (given the sharp drops in demand for fossil fuels). As economic activity picks up, societies will confront a choice of continuing to use old approaches or doubling down on investing in greener approaches. There is ample public support for forceful action on climate in the aftermath of COVID-19, with two-thirds of adults in 14 countries supporting the prioritisation of climate change during the recovery - and 71 percent of considering that climate change is as serious a crisis as COVID-19 – as noted in the Executive Summary.

Figure 14. High global compliance with social distance behaviours



Source: Fetzer and others 2020.

More fundamentally, the crisis is a stark reminder that humanity is unlikely to stay healthy in a sickening planet. We ignore our disruption of nature at our peril. But the crisis showed the potential of humans to act collectively to address a shared global challenge. Yes, the response was spotty, fragmented and incoherent, but virtually everywhere billions of people changed their behaviour to face a common threat. This made it abundantly clear that addressing other collective challenges—from climate change and biological extinction of species to growing inequalities in enhanced capabilities—is within our reach.

Notes

¹ As also emphasized by Amartya Sen, who highlighted the impact of responses to crisis when the approach is informed by equity considerations, which can actually bring some that were worse off during the crisis to better standards of living during the crisis – and that in the absence of an equity crisis, the cost in human development and even lives can be massive (Sen 2020).

² The countries are Australia, Brazil, China, Canada, France, Germany, United Kingdom, India, Italy, Japan, Mexico, Russia, Spain and the United States of America. Available at:

<https://www.ipsos.com/sites/default/files/ct/news/documents/2020-04/earth-day-2020-ipsos.pdf>

³ UN 2020c.

⁴ This global figure tends to underestimate the intensity of the crisis in countries reaching the peak of contagion. In Spain, for instance, the top cause of death is cancer, with 309 cases a day on average. The number of daily deaths from COVID-19 in late March and early April 2020 was more than 800, reaching 950 on 2 April (SEOM 2020).

⁵ Robertson and others 2020.

⁶ Santoli and others 2020.

⁷ United Nations 2020a. The United Nations has called for the magnitude of the response to match the scale of the crisis, with a framework for immediate socioeconomic responses that presents a roadmap to suppress the various transmission, control the pandemic, safeguard people's lives and learn from the crisis to build back better (United Nations 2020c).

⁸ IMF 2020e; IMF 2020a.

⁹ Many women are being forced to lockdown at home with their abusers, while services to support survivors are being disrupted or made inaccessible (UN Women 2020).

¹⁰ UNDP 2019.

¹¹ See UN Response Framework (2020f).

¹² UNDP 2019.

¹³ A classical reference is McNeil (1976), with a more recent (and prescient) account in Garrett (1994). For a “deep history” perspective on the impact of diseases on human history see Scott (2017).

¹⁴ For a recent and concise account, highlighting the short term and long term implications for inequality, see Wade (2020).

¹⁵ See, for instance, Arhin-Tenkorang and Conceição (2003).

¹⁶ Jordà, Singh and Taylor 2020.

¹⁷ Based on WHO factsheet (<https://www.who.int/news-room/fact-sheets/detail/hiv-aids>; accessed 14 May 2020)

¹⁸ Johnson and others 2020; Berger 2020.

¹⁹ ILO 2020.

²⁰ See the analytical model analysing the case of the interlinks between these shocks—in particular the transmission from a short-term supply shock to a deeper demand shock—in Guerrieri and others (2020).

²¹ The differences across countries in both deaths and reported cases of COVID-19 are likely to reflect heterogeneous tracking systems and testing capacities.

²² For the group of low- and middle-income countries, one study estimates that COVID-19 excess deaths per million could surpass 4000 in 2020 under the “mitigation scenario” (likely because significant measures are already in place in most countries). See Hogan et al (2020).

²³ See UNDP (2020c).

²⁴ Robertson and others 2020 constructed three scenarios for infant and maternal mortality linked to disrupted health services and increase in malnutrition in low- and middle-income countries. The low impact scenario assumes small reductions in health services due to demand and supply factors (movement restrictions, fear of infection, economic pressure, reallocation of resources to the pandemic response) and a 10 percent increase in wasting prevalence. See Fiala (2020) for a global estimates of child mortality under different scenarios, following Robertson and others (2020).

²⁵ The adjustment is rather conservative based on available information as of mid-May 2020. It implicitly assumes the deployment of policies to minimize the disruption of COVID-19 on essential health services (Robertson and others 2020). Also, this estimate does not consider other sources of excess mortality such as increased HIV, Tuberculosis and Malaria (Hogan and others 2020). There might be, on the other hand, some reduction in mortality coming from other causes linked to lower economic activity in developed countries (Ballester and others 2019).

²⁶ See analysis in Hevia and Neumeyer (2020).

²⁷ See IIF (2020).

²⁸ See UNCTAD (2020).

²⁹ See UNCTAD (2020).

³⁰ See initial estimates in Orozco (2020).

³¹ ILO 2020.

³² Artiga, Garfield and Orgera 2020; UN 2020b.

³³ See Mahler and others (2020). Under more pessimistic scenarios –assuming that household income per capita could fall 5-20 percent– extreme poverty could increase by 80-420 million (Sumner, Hoy and Ortiz-Juarez 2020).

³⁴ Based on fixed scenarios with aggregate growth declining by 2–10 percent (FAO 2020).

³⁵ For a description of the breakdown in the United States, see Dingel and Neiman (2020).

³⁶ Ananat and Gassman-Pines 2020.

³⁷ Valentino-DeVries, Lu and Dance 2020.

³⁸ See estimates in Jensen (2020).

³⁹ IMF 2020c.

⁴⁰ UNDESA 2020

⁴¹ Dell’Ariccia and others 2020.

⁴² Henry 2020.

⁴³ Nasdaq 2020.

⁴⁴ Based on data from the IMF Policy Tracker database (accessed 17 April 2020).

⁴⁵ Based on data from the IMF Policy Tracker database. Following the analysis in IMF (2020c), packages were classified in two broad groups: direct programmes (above-the-line, including measures of direct spending) and liquidity programmes (under-the-line, consisting of loans, guarantees, and operations referred to as liquidity or equity injections).

⁴⁶ UN 2020d.

⁴⁷ IMF 2020d.

⁴⁸ Scheidel 2017.

⁴⁹ Jordà, Singh and Taylor 2020.

⁵⁰ See UNDP (2019) for climate change and natural hazards and the references earlier in the paper about how pressures on nature can increase the frequency of zoonotic disease outbreaks.

⁵¹ IMF 2018.

⁵² Conceição, Mukherjee and Nayyar 2011.

⁵³ IMF 2018.

⁵⁴ UNDP 2019.

⁵⁵ IMF 2018.

⁵⁶ IMF 2018.

⁵⁷ WHO 2014.

⁵⁸ For instance, there is evidence of higher suicide rates in developed countries (Chang and others 2013; Reeves and others 2012).

⁵⁹ WHO 2016.

⁶⁰ Brolin Ribacke and others 2016; Elston and others 2016.

⁶¹ Sochas, Channon and Nam 2017.

⁶² Parpia and others 2016.

⁶³ Takahashi and others 2015.

⁶⁴ Evans, Goldstein and Popova 2015; McKay 2015.

⁶⁵ Sochas, Channon and Nam 2017.

⁶⁶ Sochas, Channon and Nam 2017.

⁶⁷ Hsiang and others 2017; Janković and Schultz 2017.

⁶⁸ Robles and others 2017.

⁶⁹ Kishore and others 2018.

⁷⁰ GWU 2018.

⁷¹ See, for instance, Atkeson (2020).

⁷² Government spending on health during a recession can have multiplier effects. In the short term health spending makes recovery more likely (Reeves and others 2013), and in the medium term it can be an important source of employment, particularly for women and other disadvantaged groups (Boniol and others 2019).

⁷³ Acemoglu and others 2020 model how different combination of targeted policies can relax short-term trade off.

⁷⁴ Early evidence for the United States shows that there is not a clear connection between nonpharmaceutical policy interventions and economic activity (measured using job losses) at the State level, underscoring the existence of other determinants in the relationship and spillover effects. See Lin and Meissner (2020).

⁷⁵ See complementary arguments in Sangmin and others (2020). They calibrate a model for the Republic of Korea and the UK and find that a premature lifting of lockdown, can increase GDP in the short term, but followed by a decrease in productivity in the medium term, associated with an increase in infections.

⁷⁶ Levy 2020; UN 2020b; UN 2020c; World Bank 2020.

⁷⁷ Chiou and Tucker (2020) tested the importance of high-speed internet on social distancing in the United States. Overall, households with higher income tend to have a greater ability to stay home. This income effect is explained greatly by access to high-speed internet.

⁷⁸ UNDP 2019.

⁷⁹ UN 2019.

⁸⁰ These figures come from ACAPS (2020), by mid-April. In data recorded by UNESCO, the number of countries affected is even larger, around 180, reflecting that more countries have enacted local closures. See UNESCO (2020).

⁸¹ Families with means are conversant with a vast landscape of online learning resources, including Khan Academy, Coursera, massive open online courses, online visits to museums and so on.

⁸² See UNDP (2019).

⁸³ UNDP 2019.

⁸⁴ UNDP 2019.

⁸⁵ Zhong 2020.

⁸⁶ See Chen (2020).

⁸⁷ Giannini 2020.

⁸⁸ See UNDP (2019, chapter 1).

⁸⁹ For instance, own calculations using the Findex database from the World Bank indicate that the people younger than 60 are three times more likely to pay bills or buy online.

⁹⁰ UN 2020e.

⁹¹ ILO 2017; UNDP 2019.

⁹² UNDP 2020b.

⁹³ Alon and others 2020.

⁹⁴ Data from World Values Survey for 75 countries, processed in UNDP (2020a).

⁹⁵ UN Women 2020.

⁹⁶ *The Guardian* 2020a; Mlambo-Ngcuka 2020.

⁹⁷ In Jianli County, China, the local police station reported receiving 162 reports of intimate partner violence in February 2020—three times what was reported in February 2019 (Wanqing 2020). In Australia a survey of 400 frontline workers indicated that 40 percent reported an increase in “pleas for help,” and 70 percent indicated an increase in complexity of cases (Lattouf 2020). Helplines in Cyprus and Singapore have registered a more than 30 percent increase in calls (*The Guardian* 2020a). Several US cities have seen double-digit increases (Pauly and Lurie 2020).

⁹⁸ O’Donnell 2020.

- ⁹⁹ Alon and others 2020.
- ¹⁰⁰ UNDP 2020b.
- ¹⁰¹ UNDP 2019, online statistical annex, table 8. See also UNDP (2020c).
- ¹⁰² Beyond the level of development, countries that have experienced other pandemics (SARS, MERS, birth flu) have shown greater preparedness.
- ¹⁰³ Schulte and others 2020.
- ¹⁰⁴ Assa 2020.
- ¹⁰⁵ For COVID-19, early evidence from the United States shows that after an initial increase in consumption of durable goods, there was a sharp decline in consumption across all sectors, mostly restaurants, retail, air travel and public transport. See Baker and others (2020a).
- ¹⁰⁶ See IMF (2020c) and IIF (2020) for a collection of policies.
- ¹⁰⁷ Levy 2020; UNCTAD 2020.
- ¹⁰⁸ See Levy (2020) for proposal to keep income for people in different employment categories.
- ¹⁰⁹ UNDP 2019.
- ¹¹⁰ Different countries are taking different approaches. In the United States, laid-off workers can collect cash as unemployment benefits. In Denmark, Germany and the United Kingdom, workers retain their jobs while companies receive funds to pay their full wages or most of their wages (Saez and Zucman 2020).
- ¹¹¹ See, for example, Stiglitz (2014). See Baker and others (2020b) for an early assessment of stimulus packages in the United States.
- ¹¹² WWW 2018.
- ¹¹³ UN 2020c.
- ¹¹⁴ Sen 2020.
- ¹¹⁵ UNDP 2019 documents the underlying tensions. The compound effects on the COVID-19 systemic crisis and other shocks can be deeply destabilizing. Some regions are already in a fragile situation. For instance, the unfolding crises in East Africa linked to the locust outbreak threaten the livelihoods of tens of millions of already vulnerable people as well as food production for domestic, regional and global markets. The coming months are expected to bring further manifestations of the climate crisis, already hitting the world in multiple forms, including wildfires, droughts, heat waves, hurricanes and other shocks. Social tensions are likely to be repressed by the health emergency, but they might come back with a vengeance afterwards.
- ¹¹⁶ See IMF (2020e).
- ¹¹⁷ Hepburn and others. 2020.
- ¹¹⁸ There is a two-way relationship between COVID-19 and nature. Studies have found decreased pollution levels because of lockdowns in China (McMahon 2020) but higher death rates from the virus associated with air pollution in several US counties (Friedman 2020).
- ¹¹⁹ Díaz and others 2019; Dasgupta, Raven, and McIvor 2019.
- ¹²⁰ Kohlscheen, Mojo and Rees 2020, p. 6.
- ¹²¹ Sharkey 2020.
- ¹²² UNDP 2019.

References

- ACAPS (Assessment Capacities Project) and WHO (World Health Organization). 2020. COVID-19 Government Measures Dataset. <https://www.acaps.org/covid19-government-measures-dataset>. Accessed 1 April 2020.
- Acemoglu, D., V. Chernozhukov, I. Werning and M. Whinston. 2020. "A Multi-Risk SIR Model with Optimally Targeted Lockdown", Working Paper 27102. National Bureau of Economic Research, Cambridge, MA.
- Acevedo, A. 2020. "Student Households Can Sign up for Free Wi-Fi via Spectrum while DOE Works to Deliver 25,000 iPads Next Week." *QNS*, 17 March. <https://qns.com/story/2020/03/17/student-households-can-sign-up-for-free-wifi-via-spectrum-while-doe-works-to-deliver-25000-ipads-next-week/>.
- Alon, T., M. Doepke, J. Olmstead-Rumsey and M. Tertilt. 2020. "The Impact of COVID-19 on Gender Equality" CRC TR 224 Discussion Paper Series 163. University of Bonn and University of Mannheim, Germany. https://ideas.repec.org/p/bon/boncrc/crctr224_2020_163.html.
- Ananat, E., and A. Gassman-Pines. 2020. "Snapshot of the COVID Crisis Impact on Working Families." *Econofact*, 30 March. <https://econofact.org/snapshot-of-the-covid-crisis-impact-on-working-families>.
- Arhin-Tenkorang, D., and P. Conceição. 2003. "Beyond Communicable Disease Control: Health in the Age of Globalization." In I. Kaul, P. Conceição, K. Le Goulven, and R.U. Mendoza, eds., *Providing Global Public Goods: Managing Globalization*. Oxford, UK: Oxford University Press.
- Artiga, S., R. Garfield and K. Orgera. 2020. "Communities of Color at Higher Risk for Health and Economic Challenges due to COVID-19." Issues Brief. Kaiser Family Foundation, Menlo Park, CA. <https://www.kff.org/disparities-policy/issue-brief/communities-of-color-at-higher-risk-for-health-and-economic-challenges-due-to-covid-19/>.
- Assa, J. 2020. "Laissez-Faire, Laissez Mourir." *Developing Economics: A Critical Perspective on Development Economics*, 31 March. <https://developingeconomics.org/2020/03/31/laissez-faire-laissez-mourir/>.
- Atkeson, A. 2020. "What Will Be the Economic Impact of COVID-19 in the US? Rough Estimates of Disease Scenarios." Working Paper 26867. National Bureau of Economic Research, Cambridge, MA.

- Baker, S., R. Farrokhnia, S. Meyer, M. Pagel and C. Yannelis. 2020a. "How Does Household Spending Respond to an Epidemic? Consumption during the 2020 Covid-19 Pandemic." Working Paper 26949. National Bureau of Economic Research, Cambridge, MA.
- Baker, S, R. Farrokhnia, S. Meyer, M. Pagel, and C. Yannelis. 2020b. "Income, Liquidity, and the Consumption Response to the 2020 Economic Stimulus Payments", Working Paper 27097. National Bureau of Economic Research, Cambridge, MA.
- Ballester, J., J. Robine, F. Herrmann, and X. Rodó. 2019. "Effect of the Great Recession on Regional Mortality Trends in Europe". *Nature communications*, 10(1): 1-9.
- Berger, K. 2020. "The Man Who Saw the Pandemic Coming." *Nautilus*, 12 March. <http://nautil.us/issue/83/intelligence/the-man-who-saw-the-pandemic-coming>.
- Boniol, M., M. McIsaac, L. Xu, T. Wuliji, K. Diallo and J. Campbell. 2019. "Gender Equity in the Health Workforce: Analysis of 104 countries. Health Workforce Working Paper 1. Geneva: World Health Organization. https://www.who.int/hrh/resources/gender_equity-health_workforce_analysis/en/.
- Brolin Ribacke, K. J., D. D. Saulnier, A. Eriksson and J. von Schreeb. 2016. "Effects of the West Africa Ebola Virus Disease on Health-care Utilization: A Systematic Review." *Frontiers in Public Health* 4: 222. <https://www.frontiersin.org/articles/10.3389/fpubh.2016.00222/full>.
- Chang, S., D. Stuckler, P. Yip and D. Gunnell. 2013. "Impact of 2008 Global Economic Crisis on Suicide: Time Trend Study in 54 Countries." *Bmj* 347: f5239. Chen, D. 2020. "Teachers' Herculean Task: Moving 1.1 Million Children to Online School." *The New York Times*, 29 March. <https://www.nytimes.com/2020/03/29/nyregion/coronavirus-new-york-schools-remote-learning.html>.
- Chiou, L., and C. Tucker. 2020. "Social Distancing, Internet and Inequality." Working Paper 26982. National Bureau of Economic Research, Cambridge, MA.
- Conceição, P., S. Mukherjee and S. Nayyar. 2011. "Impacts of the Economic Crisis on Human Development and the MDGs in Africa." *African Development Review* 23(4): 439–460. <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1467-8268.2011.00298.x>.
- Dasgupta, P., P. H. Raven, and A. L. McIvor (eds.). 2019. *Biological Extinction: New Perspectives*. Cambridge, United Kingdom: Cambridge University Press
- Dell’Ariccia, G., P. Mauro, A. Spilimbergo and J. Zettlemeyer. 2020. "Economic Policies for the COVID-19 War." *International Monetary Fund Blog*, 1 April. <https://blogs.imf.org/2020/04/01/economic-policies-for-the-covid-19-war/>.
- Díaz, S., J. Settele, E. S. Brondízio, H. T. Ngo, J. Agard, A. Arneeth, P. Balvanera, et al. 2019. "Pervasive Human-Driven Decline of Life on Earth Points to the Need for Transformative Change." *Science* 366 (6471).
- Dingel, J., and B. Neiman. 2020. "How Many Jobs Can Be Done at Home?" Working Paper 26948. National Bureau of Economic Research, Cambridge, MA.
- The Economist*. 2020. "COVID-19 to Send Almost All G20 Countries into a Recession." 26 March. <https://www.eiu.com/n/covid-19-to-send-almost-all-g20-countries-into-a-recession/>.
- Elston, J. W. T., A. J. Moosa, F. Moses, G. Walker, N. Dotta, R. J. Waldman and J. Wright. 2016. "Impact of the Ebola Outbreak on Health Systems and Population Health in Sierra Leone." *Journal of Public Health* 38(4): 673–678. <https://academic.oup.com/jpubhealth/article/38/4/673/2966926>.
- Enache, C., E. Asen, and D. Bunn. 2020. "Tracking Economic Relief Plans Around the World during the Coronavirus Outbreak." *Tax Foundation*. <https://taxfoundation.org/coronavirus-country-by-country-responses/>.
- Evans, D. K., M. Goldstein and A. Popova. 2015. "The Next Wave of Deaths from Ebola? The Impact of Health Care Worker Mortality." *Policy Research Working Paper 7344*. World Bank, Washington, DC.
- FAO (Food and Agriculture Organization of the United Nations). 2020. "COVID-19 Global Economic Recession: Avoiding Hunger Must Be at the Center of the Economic Stimulus." 24 April. Rome.
- Fetzer, T. R, M. Witte, L. Hensel, J. Jachimowicz, J. Haushofer, A. Ivchenko, S. Caria, et al. 2020. "Global Behaviors and Perceptions at the Onset of the COVID-19 Pandemic." Working Paper 27082. Working Paper Series. National Bureau of Economic Research. <https://doi.org/10.3386/w27082>.
- Friedman, L. 2020. "New Research Links Air Pollution to Higher Coronavirus Death Rates." *The New York Times*, 7 April. <https://www.nytimes.com/2020/04/07/climate/air-pollution-coronavirus-covid.html?action=click&module=Top%20Stories&pgtype=Homepage>.
- Garrett, Laurie. 1994. *The Coming Plague: Newly Emerging Diseases in a World Out of Balance*. New York: Farrar Straus & Giroux.
- GWU (George Washington University). 2018. "Ascertainment of the Estimated Excess Mortality from Hurricane Maria in Puerto Rico." Project Report. George Washington University, Washington, DC. <https://publichealth.gwu.edu/sites/default/files/downloads/projects/PRstudy/Acertainment%20of%20the%20Estimated%20Excess%20Mortality%20from%20Hurricane%20Maria%20in%20Puerto%20Rico.pdf>.
- Giannini, S. 2020. "Three Ways to Plan for Equity during the Coronavirus School Closures." *GEM Report*, World Education Blog, 25 March. <https://gemreportunesco.wordpress.com/2020/03/25/three-ways-to-plan-for-equity-during-the-coronavirus-school-closures/>.

- The Guardian. 2020a. "Lockdowns around the World Bring Rise in Domestic Violence." 28 March. <https://www.theguardian.com/society/2020/mar/28/lockdowns-world-rise-domestic-violence>.
- Guerrieri, V., G. Lorenzoni, L. Straub and I. Werning. 2020. "Macroeconomic Implications of COVID-19: Can Negative Supply Shocks Cause Demand Shortages?" Working Paper 26918. National Bureau of Economic Research, Cambridge, MA.
- Henry, J. 2020. "'Whatever It Takes' Goes Global: A Re-cap of Monetary and Fiscal Measures This Year." HSBC Global Research, 23 March.
- Hepburn, C., B. O'Callaghan, N. Stern, J. Stiglitz and D. Zenghelis. 2020. "Will COVID-19 Fiscal Recovery Packages Accelerate or Retard Progress on Climate Change?" Forthcoming in *Oxford Review of Economic Policy*. 36(S1). Available at: <https://www.smithschool.ox.ac.uk/publications/wpapers/workingpaper20-02.pdf>
- Hevia, C., and A. Neumeyer. 2020. "Un marco conceptual para analizar el impacto económico del COVID-19 y sus repercusiones en las políticas." UNDP LAC Policy Documents Series C19, 1. https://www.latinamerica.undp.org/content/rblac/es/home/library/crisis_prevention_and_recovery/a-conceptual-framework-for-analyzing-the-economic-impact-of-covi.html
- Hogan, A., B. Jewell, E. Sherrard-Smith, J. Vesga, O. Watson, and others. 2020. "The Potential Impact of the COVID-19 Epidemic on HIV, TB and Malaria in Low- and Middle-Income Countries", Imperial College London, May, 2020.
- Hsiang, S., R. Kopp, A. Jina, J. Rising, M. Delgado, S. Mohan, D. J. Rasmussen, R. Muir-Wood, P. Wilson, M. Oppenheimer, K. Larsen and T. Houser. 2017. "Estimating Economic Damage from Climate Change in the United States." *Science* 356(6345): 1362–1369. <https://science.sciencemag.org/content/356/6345/1362.abstract>.
- IIF (Institute of International Finance). 2020. IFF Flows Tracker. <https://www.iif.com/Research/Capital-Flows-and-Debt/Capital-Flows-Tracker>.
- ILO (International Labour Organization). 2017. *World Employment Social Outlook: Trends for Women 2017*. Geneva: International Labour Office.
- 2020. "COVID-19 and the World of Work: Impact and Policy Responses." Policy Note. 18 March. https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_738753.pdf.
- IMF (International Monetary Fund). 2018. *World Economic Outlook, October 2018: Challenges to Steady Growth*. Washington, DC: International Monetary Fund.
- 2020a. "IMF Managing Director Kristalina Georgieva's Statement Following a G20 Ministerial Call on the Coronavirus Emergency." Press Release 20/98, 23 March. <https://www.imf.org/en/News/Articles/2020/03/23/pr2098-imf-managing-director-statement-following-a-g20-ministerial-call-on-the-coronavirus-emergency>.
- 2020b. "Policy Responses to COVID-19." <https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19>.
- 2020c. *Fiscal Monitor, April 2020*. Washington, DC: International Monetary Fund.
- 2020d. "IMF Executive Board Approves Proposals to Enhance the Fund's Emergency Financing Toolkit to US\$100 Billion." Press Release 20/143. International Monetary Fund, Washington, DC. <https://www.imf.org/en/News/Articles/2020/04/09/pr20143-imf-executive-board-approves-proposals-enhance-emergency-financing-toolkit-us-billion>.
- 2020e. "Confronting the Crisis: Priorities for the Global Economy." Speech by Kristalina Georgieva, IMF Managing Director. International Monetary Fund, Washington, DC. <https://www.imf.org/en/News/Articles/2020/04/07/sp040920-SMs2020-Curtain-Raiser>.
- Janković, V., and D. M. Schultz. 2017. "Atmosfear: Communicating the Effects of Climate Change on Extreme Weather." *Weather, Climate, and Society* 9(1): 27–37. <https://journals.ametsoc.org/doi/full/10.1175/WCAS-D-16-0030.1>.
- Johnson, C. K., P. L. Hitchens, P. S. Pandit, J. Rushmore, T. S. Evans, C. C. W. Young and M. M. Doyle. 2020. "Global Shifts in Mammalian Population Trends Reveal Key Predictors of Virus Spillover Risk." *Proceedings of the Royal Society B: Biological Sciences* 287(1924): 20192736. <https://doi.org/10.1098/rspb.2019.2736>.
- Jordà, O., S. Singh and A. Taylor. 2020. "Longer-run Economic Consequences of Pandemics." Working Paper 26934. National Bureau of Economic Research, Cambridge, MA.
- Kishore, N., D. Marqués, A. Mahmud, M. Kiang, I. Rodriguez, A. Fuller, P. Ebner, C. Sorensen, F. Racy, J. Lemery, L. Maas, J. Leaning, R. Irizarry, S. Balsari and C. Buckee. 2018. "Mortality in Puerto Rico after Hurricane Maria." *New England Journal of Medicine* 379(2): 162–170.
- Kohlscheen, E., B. Mojo and D. Rees. 2020. "The Macroeconomic Spillover Effects of the Pandemic on the Global Economy." BIS Bulletin 4. 6 April.
- Lattouf, A. 2020. "Domestic Violence Spikes During Coronavirus as Families Trapped at Home." *10 Daily*, 26 March. <https://10daily.com.au/news/australia/a200326zyjkh/domestic-violence-spikes-duringcoronavirus-as-families-trapped-at-home-20200327>.
- Levy, S. 2020. "Suggestions for the Emergency." LAC Policy Documents Series C19, N.2. March. United Nations Development Programme, New York.

-
- https://www.latinamerica.undp.org/content/rblac/en/home/library/crisis_prevention_and_recovery/suggestions-for-the-emergency.html.
- Lin, Z. and C. Meissner. 2020. "Health vs. Wealth? Public Health Policies and the Economy During Covid-19", Working Paper 27099. National Bureau of Economic Research, Cambridge, MA.
- Mahler, D., C. Lakner, R. Castaneda, and H. Wu. 2020. "The Impact of COVID-19 (Coronavirus) on Global Poverty: Why Sub-Saharan Africa Might Be the Region Hardest Hit", World Bank, 20 April. <https://blogs.worldbank.org/opendata/impact-covid-19-coronavirus-global-poverty-why-sub-saharan-africa-might-be-region-hardest>.
- McKay, B. 2015. "Ebola's Long Shadow: West Africa Struggles to Rebuild its Ravaged Health-care System." *Wall Street Journal*, 4 June.
- McMahon, J. 2020. "Study: Coronavirus Lockdown Likely Saved 77,000 Lives In China Just By Reducing Pollution." *Forbes*, 16 March. <https://www.forbes.com/sites/jeffmcmahon/2020/03/16/coronavirus-lockdown-may-have-saved-77000-lives-in-china-just-from-pollution-reduction/#3e7a6df534fe>.
- McNeill, William H. 1976. *Plagues and Peoples*. New York: Anchor.
- Mlambo-Ngcuka, P. 2020. "Violence against Women and Girls: The Shadow Pandemic." Statement by Phumzile Mlambo-Ngcuka, Executive Director of UN Women, 6 April. <https://www.unwomen.org/en/news/stories/2020/4/statement-ed-phumzile-violence-against-women-during-pandemic#notes>.
- Nasdaq. 2020. "Major Central Banks Take Further Steps To Boost Liquidity Amid Covid-19 Shock." 20 March. <https://www.nasdaq.com/articles/major-central-banks-take-further-steps-to-boost-liquidity-amid-covid-19-shock-2020-03-20>.
- O'Donnell, M. 2020. "Playing the Long Game: How a Gender Lens Can Mitigate Harm Caused by Pandemics." Center for Global Development, 18 March. <https://www.cgdev.org/blog/playing-long-game-how-gender-lens-can-mitigate-harm-caused-pandemics>.
- Orozco, M. 2020. "Migrants and the Impact of the COVID-19 Pandemic on Remittances." Inter-American Dialogue, 18 March. <https://www.thedialogue.org/wp-content/uploads/2020/03/Migration-remittances-and-the-impact-of-the-pandemic-3.pdf>.
- PAHO (Pan American Health Organization). 2020. "Non Pharmaceutical Interventions NPIs: Actions to Limit the Spread of the Pandemic in your Municipality." Health Tool 4. https://www.paho.org/disasters/index.php?option=com_docman&view=download&category_slug=tools&alias=530-pandinfl-leadershipduring-tool-4&Itemid=1179&lang=en.
- Parpia, A. S., M. L. Ndeffo-Mbah, N. S. Wenzel and A. P. Galvani. 2016. "Effects of Response to 2014–2015 Ebola Outbreak on Deaths from Malaria, HIV/AIDS, and Tuberculosis, West Africa." *Emerging Infectious Diseases* 22(3): 433. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4766886/>.
- Pauly, M., and J. Lurie. 2020. "Domestic Violence 911 Calls Are Increasing. Coronavirus Is Likely to Blame." *Mother Jones*, 31 March. <https://www.motherjones.com/crime-justice/2020/03/domestic-violence-abuse-coronavirus/>.
- Reeves, A., D. Stuckler, M. McKee, D. Gunnell, S. Chang, S. and Basu. 2012. "Increase in State Suicide Rates in the USA During Economic Recession." *The Lancet*, 380(9856): 1813-1814.
- Reeves, A., S. Basu, M. McKee, C. Meissner and D. Stuckler. 2013. "Does Investment in the Health Sector Promote or Inhibit Economic Growth?" *Globalization and Health* 9(1): 43. <https://globalizationandhealth.biomedcentral.com/articles/10.1186/1744-8603-9-43>.
- Roberton, Timothy, Emily D. Carter, Victoria B. Chou, Angela R. Stegmuller, Bianca D. Jackson, Yvonne Tam, Talata Sawadogo-Lewis, and Neff Walker. 2020. "Early Estimates of the Indirect Effects of the COVID-19 Pandemic on Maternal and Child Mortality in Low-Income and Middle-Income Countries: A Modelling Study." *The Lancet Global Health*. Early release online: [https://doi.org/10.1016/S2214-109X\(20\)30229-1](https://doi.org/10.1016/S2214-109X(20)30229-1)
- Robles, F., K. Davis, S. Fink and S. Almukhtar. 2017. "Official Toll in Puerto Rico: 64. Actual Deaths May Be 1,052." *The New York Times*, 8 December. <https://www.nytimes.com/interactive/2017/12/08/us/puerto-rico-hurricane-maria-death-toll.html>.
- Saez, E., and G. Zucman. 2020. "Jobs Aren't Being Destroyed This Fast Elsewhere. Why Is That?" *The New York Times*, Opinion. 30 March. <https://www.nytimes.com/2020/03/30/opinion/coronavirus-economy-saez-zucman.html>.
- Sangmin, A., S-Y. Lee and Y. Shin. 2020. "Inequality of Fear and Self-Quarantine: Is There a Trade-off between GDP and Public Health?", Working Paper 27100. National Bureau of Economic Research, Cambridge, MA.
- Santoli, Jeanne M., Megan C. Lindley, Malini B. DeSilva, Elyse O. Kharbanda, Matthew F. Daley, Lisa Galloway, Julianne Gee, et al. 2020. "Effects of the COVID-19 Pandemic on Routine Pediatric Vaccine Ordering and Administration — United States, 2020." *MMWR. Morbidity and Mortality Weekly Report* 69 (19): 591–93. <https://doi.org/10.15585/mmwr.mm6919e2>.
- Scott, James C. 2017. *Against the Grain: A Deep History of the Earliest States*. 1 edition. New Haven: Yale University Press.
- Scheidel, W. 2017. *The Great Leveler: Violence and the Global History of Inequality from the Stone Age to the Present*. Princeton, NJ: Princeton University Press.
- Schulte, F., E. Lucas, J. Rau, L. Szabo and J. Hancock. 2020. "Millions Of Older Americans Live In Counties With No ICU Beds As Pandemic Intensifies." *Kaiser Health News*, 20 March. <https://khn.org/news/as-coronavirus-spreads-widely-millions-of-older-americans-live-in-counties-with-no-icu-beds/>.

- Sen, A. 2020. "A Better Society Can Emerge from the Lockdowns." *Financial Times*, 15 April.
- SEOM (Sociedad Española de Oncología Médica). 2020. Las cifras del cáncer en España 2020. https://seom.org/seomcms/images/stories/recursos/Cifras_del_cancer_2020.pdf.
- Sharkey, P. 2020. "The US Has a Collective Action Problem That's Larger than the Coronavirus Crisis." *Vox*, 10 April. <https://www.vox.com/2020/4/10/21216216/coronavirus-social-distancing-texas-unacast-climate-change>.
- Sochas, L., A. A. Channon and S. Nam. 2017. "Counting Indirect Crisis-related Deaths in the Context of a Low-Resilience Health System: The Case of Maternal and Neonatal Health during the Ebola Epidemic in Sierra Leone." *Health Policy and Planning* 32(Suppl. 3): iii32–iii39. https://academic.oup.com/heapol/article/32/suppl_3/iii32/4621472.
- Stiglitz, J. 2014. "Europe's Austerity Zombies." *Project Syndicate*, 26 September. <https://www.project-syndicate.org/commentary/joseph-e--stiglitz-wonders-why-eu-leaders-are-nursing-a-dead-theory?barrier=accesspaylog>.
- Sumner, A., C. Hoy and E. Ortiz-Juarez. 2020. "Estimates of the Impact of Covid-19 on Global Poverty." Working Paper 2020/43. United Nations University–World Institute for Development Economics Research, Helsinki.
- Takahashi, S., C. J. E. Metcalf, M. J. Ferrari, W. J. Moss, S. A. Truelove, A. J. Tatem, B. T. Grenfell and J. Lessler. 2015. "Reduced Vaccination and the Risk of Measles and Other Childhood Infections Post-Ebola." *Science* 347(6227): 1240–1242.
- United Nations. 2019. *The Sustainable Development Goals Report 2019*. New York.
- 2020a. "UN Launches COVID-19 Plan that Could Defeat the Virus and Build a Better World." *UN News*, 31 March. <https://news.un.org/en/story/2020/03/1060702>.
- 2020b. "UN Working to Ensure Vulnerable Groups Not Left Behind in COVID-19 Response." <https://www.un.org/en/un-coronavirus-communications-team/un-working-ensure-vulnerable-groups-not-left-behind-covid-19>.
- 2020c. "Shared Responsibility, Global Solidarity: Responding to the Socio-Economic Impacts of COVID-19." March. https://www.un.org/sites/un2.un.org/files/sg_report_socio-economic_impact_of_covid19.pdf.
- 2020d. "Debt and COVID-19: A Global Response in Solidarity." 17 April. https://www.un.org/sites/un2.un.org/files/un_policy_brief_on_debt_relief_and_covid_april_2020.pdf.
- 2020e. "Policy Brief: The Impact of COVID-19 on Women." 9 April. <https://www.unwomen.org/en/digital-library/publications/2020/04/policy-brief-the-impact-of-covid-19-on-women>.
- 2020f. "A UN Framework for the Immediate Socio-Economic Response to COVID-19." April. <https://unsdg.un.org/sites/default/files/2020-04/UN-framework-for-the-immediate-socio-economic-response-to-COVID-19.pdf>.
- UNCTAD (United Nations Conference on Trade and Development). 2020. "The Covid-19 Shock to Developing Countries: Towards a 'Whatever It Takes' Programme for the Two-Thirds of the World's Population Being Left Behind." Trade and Development Report Update, March. https://unctad.org/en/PublicationsLibrary/gds_tdr2019_covid2_en.pdf.
- UNDESA (United Nations Department of Economic and Social Affairs). 2020. "COVID-19: Addressing the Social Crisis through Fiscal Stimulus Plans." Policy Brief 58. New York.
- UNESCO (United Nations Educational, Scientific and Cultural Organization). 2020. "COVID-19 Educational Disruption and Response." <https://en.unesco.org/themes/education-emergencies/coronavirus-school-closures>.
- UNDP (United Nations Development Programme). 2019. *Human Development Report 2019: Beyond Income, beyond Averages, beyond Today: Inequalities in Human Development in the 21st Century*. New York.
- 2020a. *2020 Human Development Perspectives: Tackling Social Norms, A Game Changer for Gender Inequalities*. New York. http://hdr.undp.org/sites/default/files/hd_perspectives_gsn.pdf.
- 2020b. "The Economic Impacts of COVID-19 and Gender Inequality Recommendations for Policy Makers." Briefing Note. UNDP Regional Hub for Latin America and the Caribbean, Panama City. http://americalatinagenera.org/newsite//images/cdr-documents/2020/04/PNUD_GENERO_COVID19__ENG_FINAL_3.pdf.
- 2020c. "COVID-19 and Human Development: Exploring Global Preparedness and Vulnerability", <https://datastudio.google.com/reporting/abd4128c-7d8d-4411-b49a-ac04ab074e69/page/QYXLB>
- UN General Assembly. 2016. "Promotion and Protection of All Human Rights, Civil, Political, Economic, Social and Cultural Rights, Including the Right to Development." New York. https://www.article19.org/data/files/Internet_Statement_Adopted.pdf.
- UN Women (United Nations Entity for Gender Equality and the Empowerment of Women). 2020. "The Impact of COVID-19 on Women." Policy Brief. <https://www.unwomen.org/-/media/headquarters/attachments/sections/library/publications/2020/policy-brief-the-impact-of-covid-19-on-women-en.pdf?la=en&vs=1406>.
- Valentino-DeVries, J., D. Lu and G. Dance. 2020. "Location Data Says It All: Staying at Home During Coronavirus Is a Luxury." *The New York Times*, 3 April. <https://www.nytimes.com/interactive/2020/04/03/us/coronavirus-stay-home-rich-poor.html>.
- Wanqing, Z. 2020. "Domestic Violence Cases Surge During COVID-19 Epidemic." *Sixth Tone China*, 2 March. <https://www.sixthtone.com/news/1005253/domestic-violence-cases-surge-during-covid-19-epidemic>.
- Wade, Lizzie. 2020. "An Unequal Blow." *Science* 368 (6492): 700–703. <https://doi.org/10.1126/science.368.6492.700>

- WHO (World Health Organization). 2014. "Economic Crisis, Health Systems and Health in Europe: Impact and Implications for Policy." Policy Summary 12. WHO Regional Office for Europe, Copenhagen.
http://www.euro.who.int/__data/assets/pdf_file/0008/257579/Economic-crisis-health-systems-Europe-impact-implications-policy.pdf.
- . 2016. "Ebola Outbreak 2014–2016." <https://www.who.int/csr/disease/ebola/en/>.
- World Bank. 2020. "East Asia and Pacific in the Time of COVID-19." East Asia and Pacific Economic Update, April. World Bank, Washington, DC.
<https://openknowledge.worldbank.org/bitstream/handle/10986/33477/9781464815652.pdf?sequence=5&isAllowed=y>.
- WWW (World Wide Web Foundation). 2018. "Closing the Investment Gap: How Multilateral Development Banks Can Contribute to Digital Inclusion." <http://1e8q3q16vyc81g8l3h3md6q5f5e.wpengine.netdna-cdn.com/wp-content/uploads/2018/04/MDB-Investments-in-the-ICT-Sector.pdf>.
- Zhong, R. 2020. "The Coronavirus Exposes Education's Digital Divide." *The New York Times*, 17 March.
<https://www.nytimes.com/2020/03/17/technology/china-schools-coronavirus.html>.
- Zimmerman, A., C. Veiga, and R. Amin. 2020. "The 'New Reality' of Coronavirus: Here's What NYC's First Day of Remote Learning Looked Like". Chalkbeat New York. <https://ny.chalkbeat.org/2020/3/23/21196118/the-new-reality-of-coronavirus-here-s-what-nyc-s-first-day-of-remote-learning-looked-like>



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